

# NATION'S BUSINESS



The American Way: Junior Edition—PAGE 11

December • 1940

# A MESSAGE FROM MARCIA



**1** **JOE BRACKEN**, traveling a new territory for Scott & Barnard, Inc., came in from a hard day. . . . The business was there, but tough to get. New prospects, unfamiliar faces, all along the line. . . . Wearily, he began to unpack. . . . On the front of his last clean shirt, he found a note.



**2** **WOBBLY PENCIL LETTERS!** A little smudged where Marcia had struggled to pin it on. Four kisses too. . . . Precious kid! . . . Must be hard to love a Dad you seldom see. . . . Maybe he *could* keep closer to her — to *all* the family — by calling now and then. . . . Joe grabbed the telephone.



**3** **ACROSS THE MILES** came his wife's welcome voice . . . Marcia's happy squeals . . . the exciting news that little Joe had climbed a couple of steps under his own power. Joe was still grinning as he hung up. . . . A family worth fighting for! A new day tomorrow. . . . He whistled softly as he went on unpacking.





# ***BIG, ROOMY, BEAUTIFUL— Long on Power!***



Get the Thrill of \*Powermatic Shifting...High-Torque Performance! Enjoy the room and riding comfort Plymouth's big 117-inch wheelbase makes possible!

THEY'RE BEAUTIES at the curb—and beauties *in action*—the 1941 Plymouths. Long, low and massive—impressively *big*—Plymouth has a 117-inch wheelbase, longest of "All Three" low-priced cars!

With new High-Torque Performance and new Power-Gearing, you seldom, if ever, use low. You start in

second—slip quickly into high!

You get a rich Fashion-Tone Interior, Body Sealing against dust, noise and cold, new Safety Rims on wheels—19 great advancements in all! And, remember, Plymouth is easy to buy! Plymouth Division of Chrysler Corporation.

SEE THE NEW 1941 LOW-PRICED COMMERCIAL CARS!



## HIGHLIGHTS

**NEW SAFETY RIMS** on wheels—to prevent "throwing" of tire in case of a blowout.

**NEW ENGINE BEARINGS**—High-duty, 2 to 3 times longer-lived.

**OIL BATH AIR CLEANER**—protects engine from grit—adds to engine life.

**SPRING COVERS**—front coil springs—color choices...on all models.

**MAJOR BOWES, C.B.S.,**  
THURS., 9-10 P.M., E.S.T.

**FASHION-TONE INTERIOR**—a rich, new harmony of color, fabric, and appointments. New luxury, new comfort!

COMPARE  
PRICES OF  
"ALL 3"



\*NEW POWERMATIC SHIFTING—available on all models—slight extra cost. It's a new way to drive that vastly reduces driving effort!



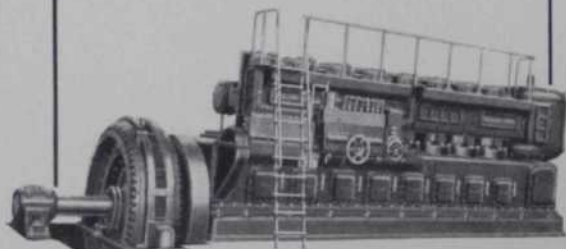


# ACRES *of* DIAMONDS

*in Your Own "Back Yard!"*



• Don't expect low fuel cost alone to give you low power cost. Any Diesel gives low fuel cost as compared to other engines. But for low power cost in a factory, where the Diesel must operate *continuously under load*, you must have both low fuel and low maintenance cost. That calls for a Diesel built for heavy duty—such as this Model 33 Fairbanks-Morse slow-speed two-cycle Diesel. Yes—there's just as much difference between Diesels as between trucks and race cars.



**M**AYBE you don't want an acre of diamonds. But you could use the cash it would bring if you had an acre to sell. Perhaps you have! Perhaps you are paying 20%—30%—50% more than you need to pay for power to operate your plant. Many owners have cut power costs 20% to 50%, and more, by generating their own with a Fairbanks-Morse Diesel.

Installation is not a major project. No special construction is needed . . . no unusual attention. Diesel fuel is cheap. Maintenance cost is low. F-M Diesel installations are paying for themselves and returning net profits.

That is worth investigating. Why not talk it over with a representative? The savings possible can be closely predetermined. Write Fairbanks, Morse & Co., Dept. 120, 600 S. Michigan Ave., Chicago, Ill. Branches and service stations throughout the United States and Canada.

7790-DA40, 173

# FAIRBANKS-MORSE

DIESEL ENGINES  
PUMPS  
ELECTRICAL MACHINERY  
FAIRBANKS SCALES  
RAILROAD EQUIPMENT

WATER SYSTEMS  
WASHERS-IRONERS  
FARM EQUIPMENT  
STOKERS  
AIR CONDITIONERS



# Diesels





*for extra privacy and comfort...  
costs you very little extra!*



**Gives exclusive use of both seats by day—plus extra space normally made into an upper berth at night . . . for just a fraction over lower berth cost!**

The place you belong at Christmas is "back home." So, resolve now to drop everything and get back home this Christmas!

If you're going alone, indulge yourself in the comfort of a Pullman "Single Occupancy Section" (S.O.S.). It's made to order for comfort. And it costs only about a third more than a lower berth!

Its advantages are shown at the left. If you didn't know about this Pullman bargain, you'll welcome the tip we're giving you.

For a mere trifle extra you may have one of the new "Roomettes" or "Duplex Rooms", available on many principal trains. If you want still more room, take a "Bedroom."

When traveling with your family you'll probably want to consider adjoining "Bedrooms," or else a "Compartment" or "Drawing Room."

Taking into account the superb comfort of Pullman travel, you'll be surprised at its low cost. For example, on the average overnight trip of 300 miles, a lower berth costs a mere \$2.65\*.

On Pullman you can take all the luggage you need *free*, in addition to 150 lbs. free in the baggage car.

Pullman's service takes you practically anywhere, including certain colorful, interesting places in Canada and Mexico. **Go Pullman!**

*\*Plus your first class rail fare*



**You Don't** need to look at the weather report when you go Pullman! Weather's ordinary peccadilloes won't slow you up or decrease safety in the least . . . Inside Pullman, scientific ventilation and air-conditioning keep it "June."



**Pullman's Rooms** (many different types are available) offer "private apartment" comfort for little if any more than individual lowers would cost. The perfect economical way for families to travel!



**You have** no excuse for not going "back home" often when you realize how easy Pullman makes it. Like traveling in a private club. Think of it that way! If you do, you'll go Pullman more often!

**DAY**

A Pullman "Section" comprises upper and lower berths. When purchased by one person it is called a "Single Occupancy Section"—giving exclusive use of both seats. Extra space and privacy make an especial appeal to business men with work to do!



**NIGHT**

**At Night** you get extra space normally made into an upper berth—giving you more room for dressing and undressing. . . . All "Section" cars offer the convertible feature illustrated here in which bed folds up (giving standing room, a mirror and shelf for toilet articles).

**Pullman's** *Single Occupancy Section*

Copy. 1940, The Pullman Company, Chicago

**and private rooms for all who want to be alone**





## HE TREATS 10,000 MEN AT ONCE

### ...YET EACH ONE GETS TAILOR-MADE CARE

NEW in the medical world, little known or understood by the public—is the doctor who holds the health of thousands of industrial workers in his hands.

The physician who specializes in industrial medicine—a man fostered and supported chiefly by workmen's compensation insurance companies—has a dual responsibility. One is to the individual patient, suffering from an occupational injury or disease; the other is to the entire body of workers covered by the insurance. In working to save the injured or sick man's job-holding ability, the American Mutual doctor also studies how to eliminate conditions that al-

low such accidents or illnesses to occur.

Thus, two opportunities for extra profit come to firms insured by American Mutual, from a corps of doctors trained in the needs, dangers and diseases of industry. Through rehabilitation of incapacitated workmen, the employer saves the valued skill of experienced men. And, through preventative measures, applied with the help of American Mutual safety engineers, accidents are reduced and, often, insurance costs.

Third of the profit opportunities offered by American Mutual and its affiliate, is the cash dividend, which has regularly cut 20% or more from the

usual costs of insurance (practically all forms except life).

*An extremely delicate, almost impossible eye operation, performed by an American Mutual specialist, returned one man to his job.*

*Research into a common infection of the fish packing industry enabled American Mutual doctors to free hundreds of workers of this affliction.*



**get 3 profits with  
American Mutual**



## Shake Hands with Our Contributors

**H**OW is freedom lost in a democratic country? When free speech and a free press are gone it is too late to recover the precious blessing of liberty. But usually there is advance notice of the final catastrophe. It appears in the creeping paralysis of free enterprise through regimentation that hampers and restricts the industrial activity upon which a nation thrives.

When this economic freedom of action is crushed, political freedom is marked for oblivion.

**Oliver Emmerich**, editor and publisher of the McComb, Mississippi *Enterprise*, draws upon his recent observations in Europe to illustrate how loss of political freedom on that continent followed loss of the individual's right to manage his business in a normal fashion. The warning for Americans is obvious.

**Herbert M. Bratter**, formerly senior economic analyst in the U. S. Treasury Department, is now a writer concerned with topics of current interest to business men. He has studied and reported on design and construction of factory buildings which if we were in war might be exposed to air raids. Although Americans are not expecting any hostile bombings in the near future, it is nevertheless a part of the defense program to consider protection from any possible aerial attack that might be launched against our industrial plants.

**Dr. Harrison E. Howe**, editor of *Industrial and Engineering Chemistry*, will be remembered by NATION'S BUSINESS readers as an author of many articles in this magazine on scientific developments that affect business.

This month he discusses the new frontiers of industry suggested by the answers to a questionnaire asking more than 1,000 industrial leaders to list the new products, processes or materials that would be valuable to their industry. His article will serve to remind readers that the opportunity for pioneers in this country is now just as real as it was when this country was founded.

**Julian Capers, Jr.**, Director of Research and Information for the East Texas Chamber of Commerce, has been a journalist, publicist and student of government for 20 years.

He formerly syndicated a column for Texas newspapers, was a member of the Washington staff of International News Service.

**Gene Holcomb**, editor of the Mississippi Writers' Project, has been studying the cotton situation for several years particularly looking for possible solutions of the cotton surplus problem.

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# Economy and style for 1941 !

## • NEW 1941 FORD V-8 COMMERCIAL CARS COMBINE OUTSTANDING BEAUTY, DOLLAR-SAVING PERFORMANCE

It can be done! Smart, stylish appearance and rugged, dependable stamina can be combined in one economical commercial car. It is done! You'll find them both in the 1941 Ford V-8 Commercial Car! These are the units that can deliver the goods at a saving and, at the same time, represent the "up-and-go" of their owners.

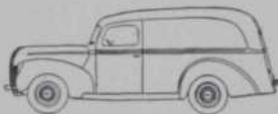
This is the last word in modern delivery service. Power from an 85-hp V-type, eight-cylinder engine. Or a 30-hp engine for maximum economy. Big, roomy bodies, designed for convenient loading and unloading. The kind of features that make a real contribution to dependability and long life.

When you buy a Ford Commercial Car you are buying the economy that counts — *over-all* economy. You're getting a unit that is built to do more work, in less time, at lower cost. See your Ford dealer. Make an actual "on-the-job" test. Prove that, for '41, it will pay you to put a Ford to work.

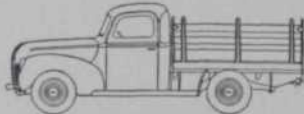
### FORD COMMERCIAL CAR FEATURES FOR 1941

- ★ 85-hp V-8 engine
- ★ New 4-cylinder 30-hp engine for maximum economy
- ★ Panel, Stake, Pick-Up and Sedan Delivery bodies
- ★ Three-quarter floating rear axle
- ★ Worm-and-roller steering
- ★ Big hydraulic brakes
- ★ Double-drop X-type frame
- ★ Ford Engine and Parts Exchange Plan to save time and money

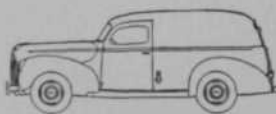
PANEL



STAKE



SEDAN DELIVERY



FORD MOTOR COMPANY, BUILDERS OF FORD V-8 AND MERCURY CARS, FORD TRUCKS, COMMERCIAL CARS, STATION WAGONS AND TRANSIT BUSES

**FORD V-8**  
**COMMERCIAL**  
**CARS** 



**FOR '41 PUT A FORD TO WORK!**





## The Spirit of the Holiday Season

**T**HE true spirit of the Holiday Season—of Christmas and the New Year—is best expressed in humble gratitude for our blessings . . . in good will and the brotherhood of man . . . and a stronger faith in the ideals and institutions which have made our nation strong.

It is in this spirit that we express our gratitude for your friendship and patronage.

And it is in this spirit, that we wish for you a good old-fashioned Merry Christmas and a full measure of happiness, health and prosperity in the New Year.

Norfolk and Western Railway

## Through the

## EDITOR'S SPECS

### Thoughts on November 6

YESTERDAY was a great day for America, a great day for the world. For it gave reaffirmation to the right of free men to say who should manage their public affairs. More significant than the result of the election is the fact that the choice of political leaders was submitted to election. That fact is a heartening distinction in itself. How rare elsewhere is the opportunity for a people to express their will, the course of foreign governments reveals with appalling clarity. Whole nations have been taken into "protective custody," their resources seized, the property of their citizens confiscated, their concern with politics virtually proscribed.

Unique as our position is, it defines grave responsibilities as well as blessings. From the wealth of object lessons abroad it should be plain enough that the tradition of liberty is lengthened only through the persistent resolve of a majority of citizens to see that their birthright becomes their children's birthright. Documentary guarantees and the pledged word of rulers are not enough. It takes all the heart and head a nation can muster to assure the serviceable perpetuity of an ideal.

American institutions will endure only as the people understand their purposes, functions, and worth. Never in our own history has the trend of events more ominously indicated the need for enlightened citizenship. What constitutes "public opinion" on issues and situations is the aggregate state of mind of millions of individuals. To make every citizen aware, articulate and active in the national interest is a job as challenging as it is formidable. The hope of a bright future for our country is cherished in the belief that if the people have light, their vision will be adequate to their problems and their perils.

Business, concerned with the shaping of public policy cannot rely solely on its consistent service to the people. As it seeks to win a daily vote of confidence for its products, so it must go to the people with a factual showing of the soundness of its views, the rea-

sonableness and wisdom of the things it wants done or undone. The first order of business is to see to it that the American people do not regard it as a bloodless, coin-in-the-slot apparatus for satisfying human wants, but as the very body and soul sustaining and defending America's most precious institutions, good citizen as well as faithful servant.

### The call of adventure

WHY are most leaders in business and industry so prodigal of their energies? Why do they keep on working, driving themselves, long after they have acquired enough resources for complete security for themselves and their families? Nobody would ask those questions about a painter, a musician or a writer. Everybody knows they keep on working because they love their work and have tasks they want to achieve. But those who write books, make speeches and otherwise mold public opinion can't understand why a business man should see anything in his work but money. They answer both questions by philosophizing on "the acquisitive fever."

This is strange doctrine for a country whose principal business is business. It shows a lamentable failure to try to understand what goes on in a business enterpriser's mind. But Allan Nevins, author of the new biography of John D. Rockefeller, is one who does see the truth. Mr. Rockefeller's passion was not greed but adventure, he says:

As energetic young Frenchmen in Froissart's day turned to war, as energetic young Englishmen in Elizabethan days turned to exploration, as energetic young Americans of 1800 turned to pioneering, so the young Americans of Rockefeller's day turned to business. They looked to it for distinction, power and the joys of self-expression. It was the heroic age of business enterprise.

### Will it come to this?

THE editor of the Peoria, Ill. *Medical News* projects his vision into future reporting under state medicine:

The disagreement as to jurisdiction between Gastro-Enterologists Local No. 37





**M**OST men and women are aware that cast iron pipe serves for more than a century—twice as long by the record as the estimated life of other kinds of pipe used for water mains. And since most water supply systems are owned by the public, long-lived water mains save taxes. Nearly two billion dollars are invested by American taxpay-

ers in water mains. So much has been saved, and is being saved each year, by cast iron pipe through avoided replacements, that it is widely known as Public Tax Saver No. 1. Cast iron pipe is the only ferrous metal pipe, practicable for water, gas and sewer mains, that rust does not destroy. Sizes from 1¼ to 84 inches.



Here is an unretouched photograph of a 109-year-old cast iron water main in St. Louis, Mo.

**PUBLIC TAX SAVER  
NUMBER ONE**

# CAST IRON PIPE

THE CAST IRON PIPE RESEARCH ASS'N, T. F. WOLFE, RESEARCH ENGINEER, PEOPLES GAS BLDG., CHICAGO

and Abdominal Surgeon's Union No. 2 in the case of a typhoid patient suspected of perforation is still unsettled, though the patient died shortly after the hearing began.

John Jones and his wife, 2106 Blismark Avenue, are declared unfair to union medicine by Obstetric Local No. 24. Their recent offspring was born in an ambulance.

But how could there be as much as two paragraphs of doctors' or any other union news without something about rigging fees?

## What's wrong about tradesmen?

THERE is something about the present war psychosis that seems to distort American thinking in European patterns. Ordinarily balanced men talk nonsense, forget the principles our people have lived by, and spill a babel of words. Even the ordinarily sensible *Washington Post* thus editorialized about Neville Chamberlain:

It was precisely because he had the spirit and psychology of the respectable tradesman that Mr. Chamberlain, for all his good intentions, failed so miserably. Because he was a tradesman at heart, Mr. Chamberlain failed to perceive that the nineteenth century bourgeois world was dead and that the bourgeois virtues he exemplified were dying.

We have no reason either to defend or attack Mr. Chamberlain. But whatever history may say of him, this characterization is a piece of snobbery. No American should so far forget his national "raising" as to ridicule the "spirit and psychology of the tradesman." And the allusion to "dying bourgeois virtues" resembles the language of an Old World Marxian doctrinaire.

It is not because he presumably has no tradesman's blood in his veins or because of any scorn for bourgeois virtues that Winston Churchill is doing a better job for Britain than Neville Chamberlain did. In both Britain and America, but particularly over here, our hopes are pinned on bourgeois, or middle class, virtues and the "spirit and psychology of the respectable tradesman." God help both peoples if those characters become labels of aspersion.

## Too many bosses

IF YOU think you're having a hard time running your business to suit some lordly bureau chief in Washington, share a little of your sympathy with the Binkley Coal Co. of Chicago and you won't feel so badly about yourself.

When minimum prices for bituminous coal under the Coal Act of 1937 became effective recently the Binkley Co. so notified its customers. One of them, the U. S. Postoffice Department, replied that it had a contract and the coal ordered during the period of that



contract would have to be delivered at the price agreed upon. This interpretation was confirmed by an official opinion from the Comptroller General.

"How about this?" the company telegraphed to the Bituminous Coal Division of the Interior Department.

"You will have to bill the Postoffice Department at the minimum rates established or run afoul of us," was the reply of the Bituminous Coal Division. Violation would bring criminal prosecution plus a 19½ per cent penalty.

The classic dilemma of trying to steer a course between Scylla and Charybdis was no worse than the plight of business under the bureaus.

### Advertiser, spare those words!

A LITTLE girl listening to a radio program was very vexed by the commercials, says Paul Cherington. "Oh, why do they always have to break in like that and brag and brag and brag?" she wanted to know.

A lot of adults are asking the same question. They glory in the spunk of a well known news commentator who recently refused to substitute on a program and have his talk interrupted in the middle by a blurb. We know, of course, that there must be advertising in order that we listeners may have these fine programs without cost. The only question is how much advertising. Is it possible that some highly paid advertising managers can't see what is so crystal clear to the listeners—that too much chatter about a product injures it, nullifies the favorable effect of the program?

Excessive bragging is advertising in reverse. It kills sales, makes consumers swear never to buy the product, discredits all advertising.

### This cockeyed world

AN American manufacturer of vacuum cleaners reports that its house-to-house sales in London are running well ahead of New York. . . . While England fights and America debates the third term, others are making, selling or wearing jewel-throated, black velvet cocktail dresses. . . . After an eight-year slump, marriages in most of the large cities have been showing a phenomenal rise, in some cases doubling a year ago. . . . A confidential report on concentration of wealth issued by the S.E.C. sprung a "leak" and found publication in the Communist *Daily Worker* just before the election.

### Refinements of civilization

FROM our notes on the Fashion session at the recent Boston Conference on Distribution:

Elizabeth Arden says we have come



## What did it?

**A Tornado?... An  
Aerial Bomb?... No, it was  
POWER RUNNING WILD!**

Power, the Herculean giant of industry! Hold it in leash — exerting itself at its appointed tasks — and you are scarcely conscious of its might. Give it a chance for a break-away, and there is no fury like it!

A corrosion-thinned boiler drum (as was involved in the disaster pictured above); a weakened seam in a pressure vessel; an incipient crack in a turbine rotor, engine shaft or fly-wheel — can end up in a plant dismembered, workers maimed or killed.

But for every power-plant accident of this sort, Hartford Steam Boiler's inspection record shows scores that *didn't* happen — that were prevented by early discovery of some hidden flaw

or weakness, thus sparing owners heavy costs, including those of business interruption.

With 74 years of experience, over 18,000,000 inspections, a field force of 400 highly trained inspectors and supervisors giving *all* their time to the exacting problems of power-plant insurance — Hartford Steam Boiler has probably *prevented* more industrial-power accidents than all other organizations of its kind.

Your agent or broker can give you many more reasons why it will pay you to link your power-plant inspection and insurance to the engineering service which gives Hartford Steam Boiler undisputed leadership in this specialized business.

Hartford Steam Boiler employs a complete engineering staff devoted solely to the study of power-equipment accident causes and means of prevention . . . covers a preponderant portion of America's insured power equipment . . . and shop-inspects more than 90% of the Nation's industrial-power boilers.

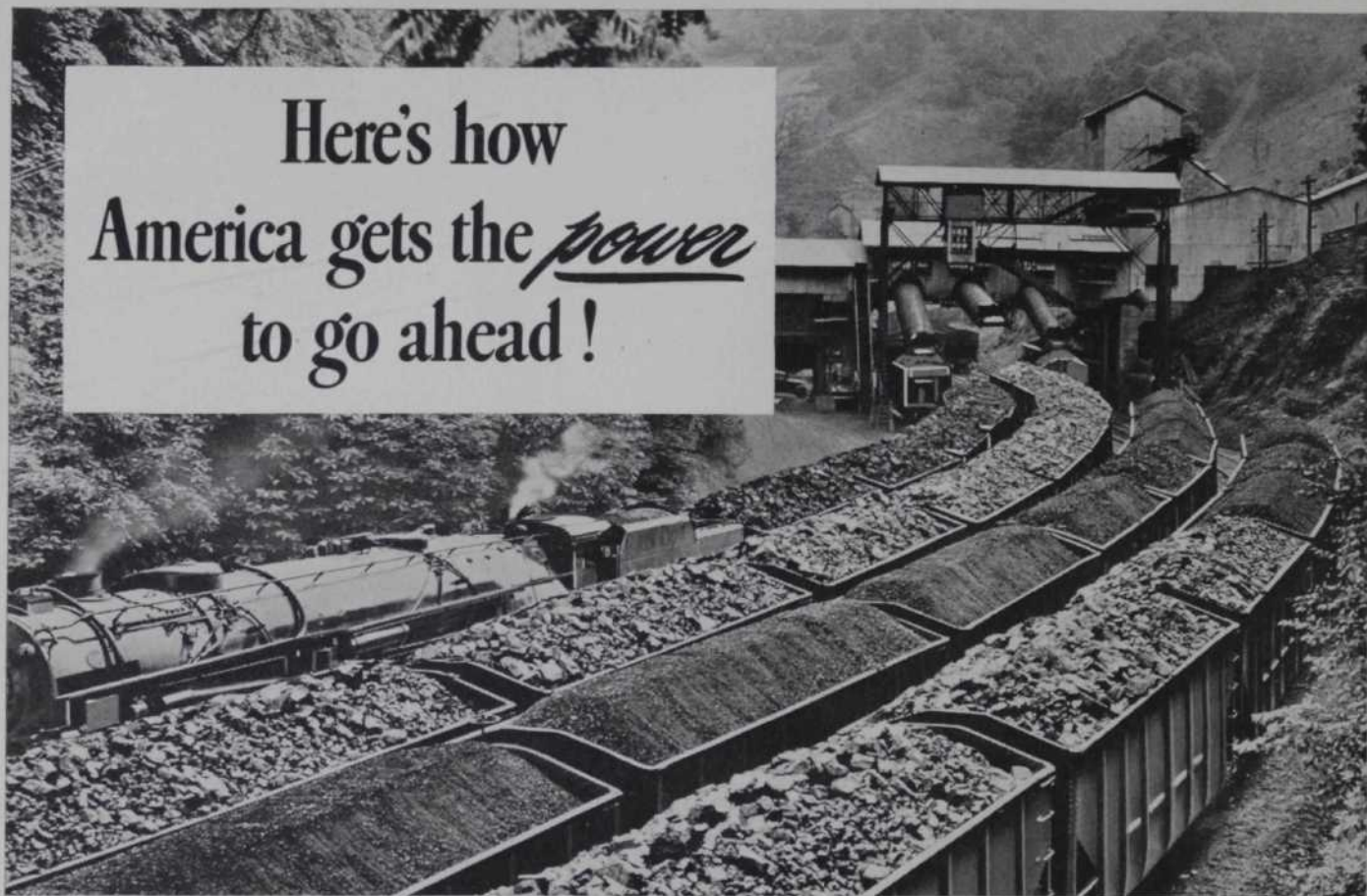
**THE HARTFORD STEAM BOILER INSPECTION  
AND INSURANCE COMPANY**

HARTFORD,  
CONNECTICUT





# Here's how America gets the *power* to go ahead!



**W**HAT do you see here? Just a lot of railroad coal cars? Listen—

You're looking at the greatest source of energy in America.

Coal is the No. 1 source of power in the nation's factories.

Coal is the No. 1 source of warmth in the nation's homes.

Coal gives us iron and steel. Coal generates most of the electricity used in this country. And just a handful of coal contains enough energy to pull a ton of freight a mile on America's railroads.

Did you know that it takes more than a million tons a day to supply the nation's demands for light and heat and power?

Did you know that the annual value of the bituminous and anthracite coal mined in the United States exceeds that of all other minerals combined?

But without adequate transportation

from mines to the rest of the country these coals would have little value. Few people could enjoy their warmth and comfort—most manufacturing plants would have to be located near the mines.

It is only because railroads provide quick, dependable, cheap transportation to every corner of the land that people can use this inexpensive fuel, and that manufacturing and power plants, producing for our daily needs and for national defense, can be located long distances from the coal fields and still be sure of a steady flow of fuel.

To meet the nation's needs, railroads every day are called upon to haul enough coal to make a train 150 miles long.

No other form of transportation could come close to handling so great a job so smoothly or economically. All by itself the movement of the nation's No. 1 fuel from mine to consumer would be a notable

accomplishment. But at the same time, the food you eat, the clothes you wear, most of the things you use every day—and most of the supplies for the nation's factories—flow with the same smoothness—by rail.

No wonder thoughtful people recognize the railroads as the nation's No. 1 transportation system—not only in the volume they handle, but in the skill with which the job is done.

## "SEE AMERICA" for \$90



Start from your home town now on a Grand Circle Tour of the United States—east coast, west coast, border to border—go by one route, return by another—liberal stopovers—for \$90 railroad fare in coaches—\$135 in Pullmans (plus \$45 for one or two passengers in a lower berth).

### NOW—TRAVEL ON CREDIT

You can take your car along too  
See your local ticket agent

**ASSOCIATION OF AMERICAN RAILROADS**  
WASHINGTON, D. C.



a long way since those primitive times when women hid cosmetics in their bureau drawers and there were only two shades of lipstick. Zounds, what hardships the pioneer mothers endured that fashionable women today might have gowns and costume jewelry to match their nail enamel!

Smart English women are laying in a year's supply of cosmetics to wear in blackouts and in the subways of London. Face cream will win the war; save it sisters!

Why should a woman wear the same face every day? The answer is *not* because she fears being called two-faced.

Madame Schiaparelli says that she put the waist line and "everything" where it belongs, padded the shoulders and suppressed hips.

We men think we are veterans when it comes to slugging it out with competition, but it is mere shadow boxing compared with style competition among women.

### In the name of "democracy"

THAT word "democracy" is fast being belabored beyond recognition. Now an impassioned young New Yorker named Samuel Grafton adds to the confusion with a book which he calls, "All Out—How Democracy Will Defend America."

The substance of Mr. Grafton's fine frenzy is that the whole show at home and abroad must be stopped until Hitler has been laid by the heels and boiled in oil. In doing that job he thinks our first need is to become "shatteringly democratic," whatever folly that may imply.

An example of "shattering" democracy is Grafton's appeal that the United States spend at once the "stingy" sum of \$30,000,000,000 for armament. It would be easy, he thinks, "If we invoked the blessings of book-keeping," treated the expense as a "capital outlay" and spread the cost over 20 years.

Historians have faithfully pointed out that pure democracy is socialism, that socialism ultimately "eats itself up," and a receiver in the form of a dictator always takes over a bankrupt society.

Mr. Grafton is unwittingly charting the well known course of a democracy without the bridle of checks and balances which distinguish the American republic. He is for the "checks" and no "balance."

### Demos and property rights

THE press reports another incident that mirrors these strange times better than a Doctor of Laws thesis could do it.

Just outside of Louisville, Ky., the

Army was getting ready to start construction of a military cantonment which was to take in a truck farm. The Government had paid the truck farmers \$2,591 for the remainder of their crop and expected to make some local disposition of it.

Then a Sunday intervened. A motorist drove up, hopped out of his car, ripped off an armful of cabbage heads and carried them away with him. Other people came for cabbage, potatoes and turnips. Soon there were as many as 100 raiders in the field, including a number of well-dressed women. One man carried off a load in his car and came back with a trailer.

One of the former owners seeing the bummers at work went over and asked a forager if he thought it was a free-for-all. He did. Wasn't it government property now? When a crowd returned at night and started to working by lights the police had been apprised and turned them back.

Here one sees the new conception of property that has been growing up in this country. If it belongs to the Government it's fair prey for the first comer. "What's the difference; the Government gets it from them rich fellers in the East. Why I hear tell there's a millionaire on every street up there."

### The American Way: Junior Edition

THOSE who despair of the state of a world where every day seems to bring a new war or threat of war may find some comfort this month in a stroll through the toy departments. There they will find the rising generation seeking its amusements among toys which have more a humanitarian than a military flavor. Although regiments of miniature soldiers with full equipment reflect the tenor of the times, they parade side-by-side with playthings whose purpose is to prepare the young amusement-seeker for an eventual world of peace.

Perhaps the youngsters on our cover, investigating the simple mysteries of science by means of a toy chemistry set, complete with blackboard where surprising—to them—discoveries may be written down, will begin here a dream that will one day mean greater health or happiness for mankind. Perhaps other children who find building sets or railroad trains in their Christmas stockings will one day make their contributions to engineering or transportation. In any event the toy department with its tinsel hangings and false-bearded Santa Claus holds out a hope for a better world. It teaches that peace will some day come again and is training the youngsters to take their place in it.

it+adds  
IT-SUBTRACTS  
it's  
portable



\$79.50

WITH DIRECT SUBTRACTION

Yes, this new, scientifically engineered, sturdy, portable adding machine has *direct subtraction* and dozens of other exclusive features—for only \$79.50! Modern as tomorrow's stratoliner in appearance, speed, and *performance*—the climax of Victor's 22 years of leadership in serving business, large and small. Phone your Victor representative today for a demonstration. Or write Victor Adding Machine Co., Dept. N-12, 3900 North Rockwell Street, Chicago.



Speedy, 9-pound Victor portable "straight" adders in three capacities—\$47.50; \$55; \$70.



Also ten-key "straight" portable adders in three popular capacities—\$47.50; \$55; \$70.



Victor Electrics, for 22 years the standby of business everywhere, start at \$114.50.

"WHERE YOU  
NEED IT,  
WHEN YOU  
NEED IT."

VICTOR  
ADDING MACHINES





# *A "Rubber Railroad"*

**10 MILES LONG!**

—world's lowest-cost transportation system

**W**HAT you see here is just one link in one of the world's most spectacular engineering feats—the longest conveyor belt transportation system ever built! Ten miles long in all, this giant "rubber railroad" is the main line for transporting construction supplies to the great Shasta Flood Control Dam. Designed by the G.T.M.

—Goodyear Technical Man—it beelines across wastelands, bridges rivers, climbs over a range of hills 1,350 feet high, carrying a peak capacity load of 22,000 tons per day. In four years it will deliver 10,000,000

tons of sand, gravel and crushed stone—at far lower cost per ton than any other haulage method! This mammoth conveyor is the outgrowth of other historic installations ranging from one to five miles in length that have proved the unrivaled economy of belt transit in handling huge tonnages over terrain where other transportation does not exist or costs prohibitively. If you have such a problem, consult the G.T.M. Write Goodyear, Akron, Ohio, or Los Angeles, California—or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

THE GREATEST NAME IN RUBBER  
**GOOD YEAR**





## Behind and Beyond the Ballots

"The Republic died yesterday. Socialism, American style, now reaches out for the seed corn. Representative government is through."

**S**O WRITES a reader. His letter is dated November 6.

But, is the picture so dark? Doesn't the November 5 poll of public opinion amount to a spiritual rebirth of the people's concern with government?

Business, the backbone of the free enterprise system, for the first time in ten years, was not an issue in a national campaign. It was not an issue, as any politician will tell you, because an attack upon it would fail to get a popular response. For more than a year it has been obvious that there is a better understanding, and acceptance, of business policies and practices. That is one reason why 22,000,000 citizens rallied to support a business man candidate, an unknown to the political world.

Significant, too, is the fact that there was no issue on the question of production. Both candidates urged it. Business, in opposing "a planned economy of scarcity," has stood foursquare through the years on a platform that the more we make, the more we do, the better off we are. Now that there seems to be unity of thinking upon this point, progress has been made toward the removal of those obstacles which lie in the way of production.

What are those obstacles?

Frustration of productivity through government labor policies; "spending for recovery," which puts greater tax burdens upon consumer and producer, a budget hopelessly out of balance, and the prospect of continual deficits; baiting management; encouraging social conflicts; the emphasis in public life upon extravagance; government by bureaucratic decree, instead of by written statutes; and finally, the promise of security rather than a program of sacrifice and hard work.

True, the removal of these obstacles was not a campaign issue. But beyond the ballots for greater production there is the unexpressed mandate that all unnecessary barriers to the free play of productive agencies be removed.

Hobbles upon management, however well intentioned, have been too taut. Blinders upon management, however well intentioned, have impeded speed and hill-climbing. Spurs in the flank, with tightened rein, have served to confuse rather than to urge forward.

To change the figure, the brakes have been set too hard upon our productive machine. The public senses this as a generality; it remains for industry's leaders to present the bill of particulars, to describe in detail the hampering effects at the different points on the production line.

If one per cent of the energy we feverishly expended during October to convey this information were carried on over the year, intelligently and calmly, in local communities and on through to our representatives in Congress, the present trend toward complete socialization could be stopped and thrown into reverse.

When Australia adopted universal suffrage, a liberal premier exclaimed: "We now must educate our masters!" So, the race here is between education and catastrophe.

Sober judgment finds encouragement in the election returns. It is no exaggeration to say that millions have rediscovered the Republic, whose checks and balances distinguish it from pure democracy, making possible economic and political freedom. A flickering flame has been rekindled. The Republic lives again in the hearts of millions.

To our discouraged and cynical correspondent we reply: "All is not yet lost. Feed the flame with information and exhortation until it illuminates the minds and stirs the hearts of other millions."

*Mere Thorne*



# A NEW KIND OF FLEET CAR IS HERE!

## THE BIG NEW LOWEST-PRICE NASH OFFERS:

- ★ 25 to 30 Miles per Gallon of Gasoline!
- ★ Flashing Pickup of New Flying Scot Engine!
- ★ More Seating Capacity than any lowest-price car!
- ★ A Coil Spring Ride on All Four Wheels!
- ★ New "Unitized" Steel Body—Safer, Quieter!
- ★ Improved Weather Eye Conditioned Air System ... and Convertible Bed!



*To prove how great this new car is . . .  
Nash offers every large fleet operator a car  
to drive for 30 days without obligation!*

IT'S here today. The low-price car fleet owners hoped they'd someday see.  
—The kind of a car that only Nash could build!

It's big, sturdy, beautiful-looking. But just imagine it delivering 25 to 30 miles to the gallon in the hands of your average good driver!

Just imagine the money it can save on your operating costs every year! And we invite you to check this economy yourself—over your own routes, with your own drivers—for thirty days.

We want you to see how—with Nash's many new engineering developments—it will cut your operating costs on gas, oil, tires and maintenance.

From the wheels up—it's completely new. Instead of the usual bolted body

and chassis, it has a new "unitized", welded steel body—used for the first time on cars costing less than \$1,200. Safer, stronger—yet lighter, it adds extra mileage to tires and gas.

Instead of the usual fuel-wasting engine, Nash has the new economical "Flying Scot" engine—*Manifold-Sealed* with full pressure lubrication for dependable performance and long life.

Instead of ordinary springing, Nash offers something new in the lowest-price field—coil springs on *all four* wheels.

With its new Two-way Roller Steering, salesmen will find it quicker, easier to handle and park.

And it's made to order for winter! The new, improved Weather Eye Conditioned Air System keeps drivers go-

ing even in weather cold as 10° below. The Convertible Bed available in every Nash sedan provides a sleeping car for overnight trips.

Actually, no other car on the road today can offer you the comfort, the convenience, the all-around economy of this new, lowest-price Nash. It's ready for your inspection now. Why not see about starting the Nash 30-day test today?

If you are a large fleet operator, write W. A. Brees, General Sales Manager, Nash Motors Division, Nash-Kelvinator Corporation, Detroit, Michigan, and a car will be sent for trial.

*Business Coupe illustrated, delivered at the factory, including all standard equipment and Federal taxes . . .* **\$731**

Weather Eye, Fourth Speed Forward, Convertible Bed; optional equipment at slight extra cost.

### NOW IT'S NEVER TOO COLD!



Nash Weather Eye Conditioned Air System supplies drivers fresh air comfortably warm even at 10° below zero . . . can cut down sick days.

### EASIEST HANDLING CAR EVER BUILT!



Nash's new *four-wheel* coil springing, Two-way Roller Steering let salesmen "take it-easy" on the route, yet make more calls per day.

**GO NASH**  
**AND SAVE MONEY  
EVERY MILE!**



# Is Our Freedom Immortal?

By OLIVER EMMERICH

**FREEDOM of the citizen to demand his political rights is so bound up with economic freedom that the two are virtually indivisible**

I TALKED with a former official of the Belgian Government as we rode through the Swiss Alps. The first World War was still vivid in his mind. He told me of his Brussels home with a front room on the second floor with a large table in the center, where his family had gathered to study the progress of the war back in the days of the first great inferno.

"We had a map of the battlefield on this table and I could tell by the way the windows rattled in my house where the conflict was raging fiercest."

It was from this Belgian that I received my most intimate glimpse into the insidiousness of a controlled press. He described to me how he ascertained that the United States had entered the war on the side of the Allies back in 1917:

"At the very start of the war we were caught behind the German lines," the former official said. "Our newspapers were all directed by the military authorities of the Reich. Editorial after editorial was written ridiculing the rumor that America would enter the war. These editorials reasoned that America was powerless to help the Allies. I was convinced that it was an impossibility for the United States to transport troops to France in the face of the German U-boats. Despite my hopes and prayerful wishes my reason convinced me that we need not look to the United States for help. It was simply impossible.

"One day I rushed to my upper room, drew the curtains, and assembled my family. 'The United States is in the war on the side of the Allies,' I told them. Then I related how I had gotten this unusual news.

"A small item had inadvertently gotten into one of the newspapers. It reported the sinking of an American transport enroute to New York.

"My heart beat fast as I told my family what this little news item meant. 'If



In a totalitarian country, whether it be under the direction of a military machine or a civil autocracy, public policy determines public opinion



the United States is not in the war with the Allies, then why have the Germans sunk this American transport?" Then I reasoned further. 'If the United States does not already have troops in France, then why has this transport been sunk while returning to New York.' My heart was light. At last help had come from our mighty friend in the western hemisphere."

### Value of a free press

AMERICANS cannot realize the joy of freedom of speech and freedom of press until after they have observed a people who have been denied these basic rights.

The experience of the former Belgian official presents a vivid example of how differently the press is managed in a totalitarian atmosphere as compared with our American way of doing things.

In a totalitarian country, whether it be under the direction of a military machine or a civil autocracy, public policy determines public opinion. In a democracy, public opinion determines public policy. This difference is the great gulf

which separates free men from slave-dom.

How is public policy made in the United States? The answer is simply this:

Some individual has an idea. The individual may be humble or great. He relates his opinion to someone on the street, in a club car, or at his club. The idea is either denounced or accepted. If it has merit it prompts discussion or controversy. If there is power in the thought some citizen sends a letter to the newspaper or some newspaper uses it as an editorial topic. Like the rolling snowball it gains weight. When it first shows signs of having public favor some candidate seizes upon it and converts it into a plank in a political platform. The idea either falls by its own weight or soars by its own wings. If it lives, it eventually reaches the halls of a legislature or congress and becomes a law. Then it is that public opinion is converted into public policy.

The situation is just the reverse in a totalitarian state. Editors of a government-directed press are told what to popularize. The public policy is decided

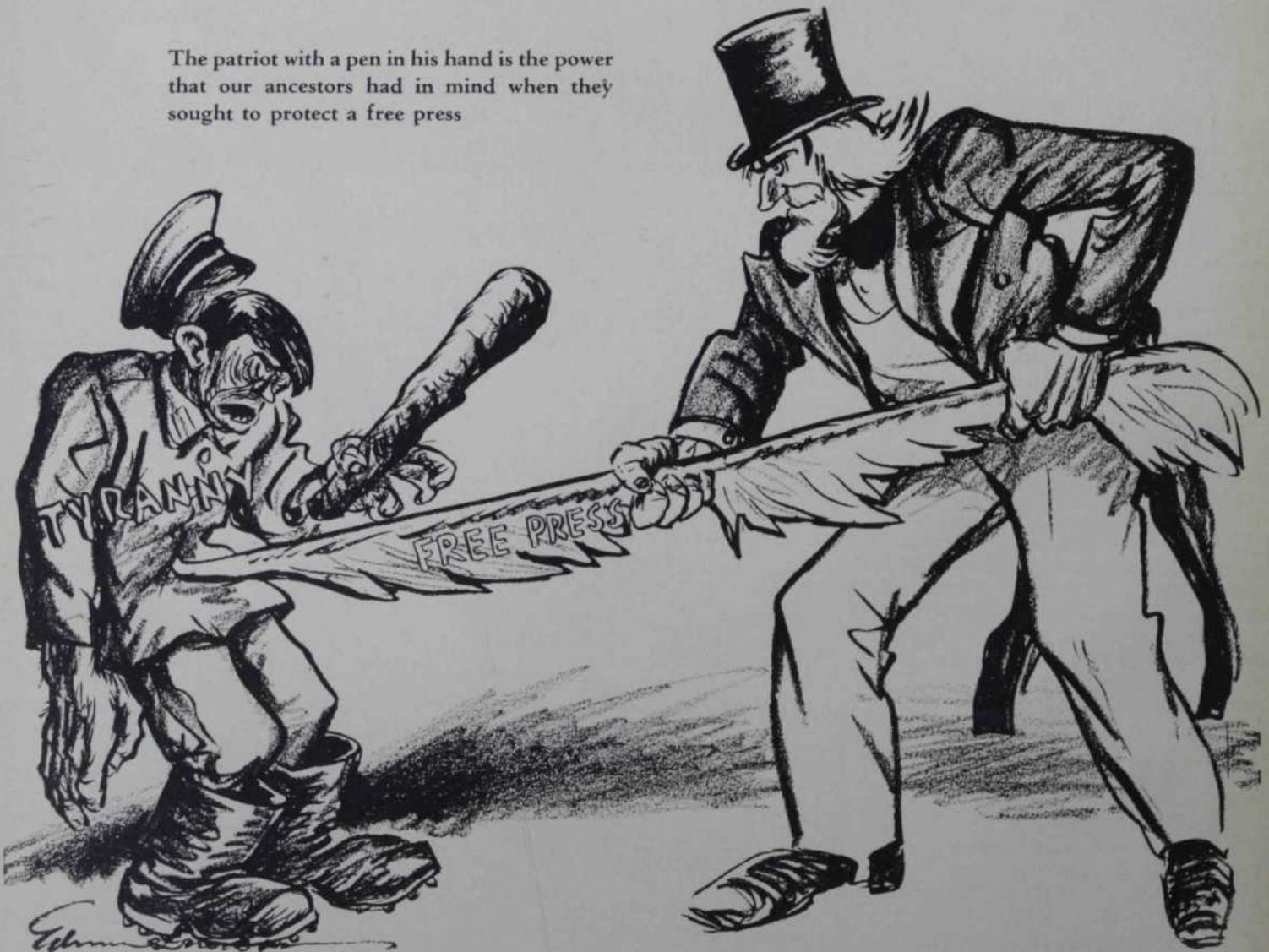
upon. Then the editors get to work and convert it into public opinion. This Belgian official was convinced by the editors of his militarized country that the United States could not help the Allies. Opinions to the contrary were suppressed.

Through the courtesy of the State Department it was arranged two years ago that I should interview Benito Mussolini. Circumstances demanded that the first hour of appointment be changed and that evening a prominent government official of Italy joined me at dinner. He stated the Italian case with enthusiasm.

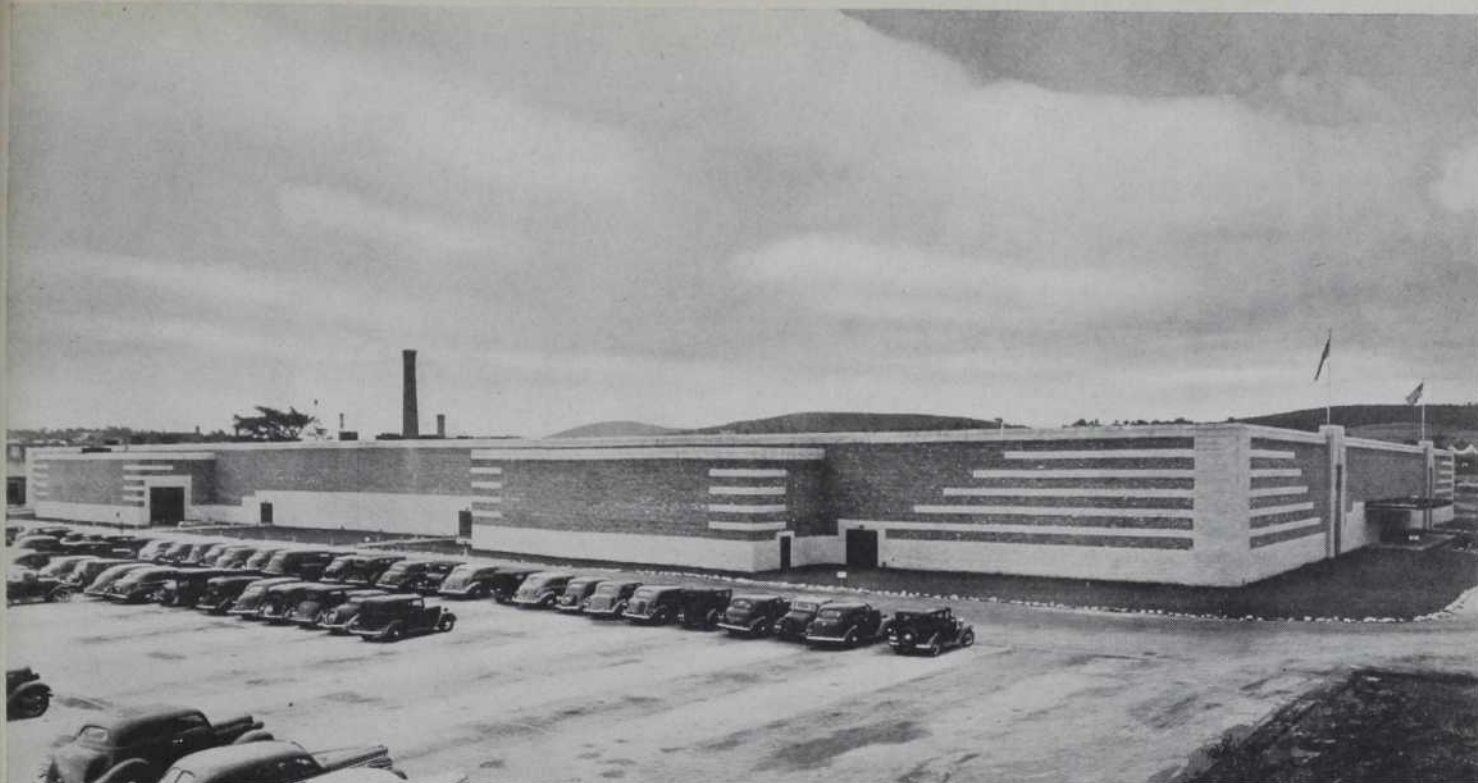
"You Americans sing songs of freedom," he said. "You glorify your political freedom in poems and speeches." Then he added, "But if you did not have economic independence you could not have your boasted political freedom." His eyes seemed gray with seriousness as he went on, "Our people want political freedom but our leader knows that we cannot have political freedom until we have attained economic freedom."

These words have repeatedly rung  
(Continued on page 56)

The patriot with a pen in his hand is the power that our ancestors had in mind when they sought to protect a free press







This windowless plant, built for Simonds Saw and Steel Co. almost 10 years ago, is setting a pattern for blackout plants manufacturing defense equipment

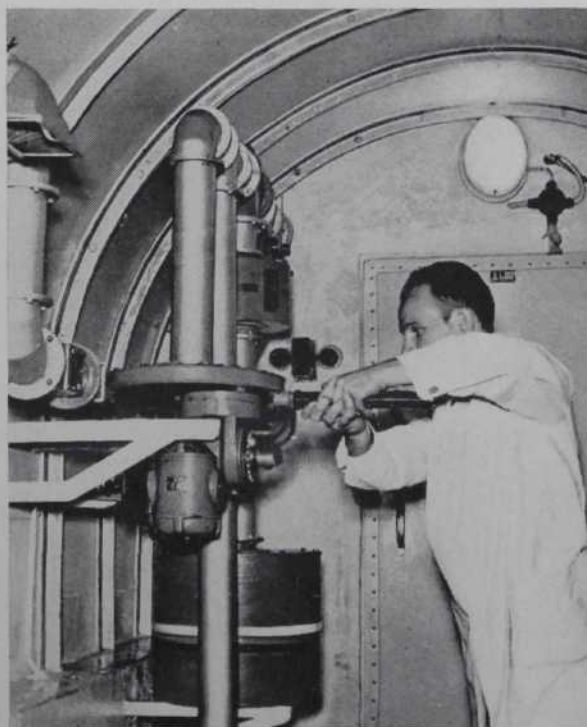
AUSTIN CO.

# Mars & Co., Architects

By HERBERT M. BRATTER

**P**ERHAPS when Mrs. James Storrow of Lincoln, Mass., started her air-raid shelter she may have had in mind the Right Hon. Winston Churchill's remark that "Everything I was taught to believe was impossible has happened." In these days of total war, it is only natural that civilians should be thinking of personal protection. This line of thought began with Shanghai and Barcelona. It has been greatly stimulated by happenings in Warsaw, Rotterdam, and London. Who would have thought in 1914 that by 1940 there would be no more islands? And who knows? Maybe in another quarter century there will be no more oceans.

More than two years ago the Building Trades Employers' Association of New York suggested redesigning roofs in the city as wartime protection. It recommended structural provision for heavy roof loads of sand bags and steel plates, and preparing the tops of high buildings for anti-aircraft-gun emplacements.



Foreman is trying out a fresh air machine in a German air raid shelter

This fall, Sen. Elmer Thomas introduced a resolution drawing attention to the need for public air-raid shelters in our cities. In Maryland, the Defense Resources Council has initiated surveys for shelters in the state's chief cities.

The Structural Clay Products Institute is issuing a series of bulletins based on the United Kingdom's A.R.P. (Air Raid Precautions) handbooks. The National Research Council has a committee on passive protection against bombing. The Pratt Institute has announced a course in air raid protection. And the War Department, having in mind the expansion of industry for defense, has published "Passive Defense Protection for Munitions Plants," a memorandum setting forth the minimum precautionary requirements.

Elsewhere officials are studying the inclusion of raid shelters in new housing projects. The F.H.A. is making its facilities available to include construction of private air-raid shelters, fol-





Anti-blast adhesive netting is fixed on windows of buses in London—might have limited value on factory windows



Guests of a London hotel take shelter in a former cabaret room—made bomb and gas proof at cost of £4,000

lowing inquiries on the subject from financing institutions.

While these activities show that people are thinking about air raid risks, it does not follow that you should run right out and dig a trench in your back yard. For one thing, Europe's experience shows that trenches do not afford very good protection. More to the point is the fact that thousands of American communities off the beaten track will never have to scurry from a bomber, even in war time. In this vast country, the situation is very different from that in a compact, highly industrialized area such as

England, where some convenient target is always under wing.

We cannot build our country over. We cannot turn factories into forts. But, if developments make it advisable, we can minimize the risk of damage and interruption of work. As we plan and erect new buildings—factories, stores, schools, hospitals—in potentially vulnerable areas, or as we make structural repairs to existing structures, we can take a page or two out of England's dog-eared lesson book. Articles in British architectural journals of the past two or three years, and the various A.R.P. handbooks that have been

collecting dust on library shelves are now of more than academic interest.

The most important phase of "A.R.P." is the protection of life and limb. Property protection is a secondary objective, although one highly important to the life of the nation.

Air-raid shelters are the most ob-



Bowling alley in underground shelter is good for morale

vious of the innumerable precautions that may be taken. In reviewing British official advice on the subject, we should realize, of course, that the full physical results of England's ordeal by bomb are still to be reported.

### Qualifications of a shelter

AN air-raid shelter is simply a temporary place of refuge from air attack. But that does not mean that a bare chamber will suffice. Ideally, the shelter should not only be splinter-proof, but hit-proof, shock-proof, gas-proof, water-proof, disease-proof, and ennui-proof as well. Its construction, its materials, its furnishings, and its site are all matters of careful planning. The problem is difficult. A shelter must be adequate for the maximum number of persons ever likely to need it. It must be accessible, yet not imperilled by too close proximity of walls or other sources of danger. It should not be near a tall chimney, a water tank, or in a court yard, nor should it be near water mains or steam pipes.

Shelters may be indoors or outside, depending on conditions, according to the British A.R.P. handbooks. An interior shelter usually is best located on the ground floor, but



in some cases of large buildings, it may be safely placed higher, above the "gas level," provided the walls and ceilings of the rooms below are splinter-proof. For further protection in buildings housing large numbers of people, subdivision of the floor space by means of interior walls or other devices is advised, to minimize casualties.

### Stairway shelters

IN tall buildings, indoor stairway fire-escapes may be developed as vertical shelters, thus permitting freer use of glass elsewhere in the building. Even in homes, individual rooms may be made raid-resistant by shoring. Adjustable steel columns may be quickly installed.

Recently a large British industrial establishment built a system of 1,000-yard shelter tunnels 55 feet underground, thus affording complete immunity to 10,000 workers. The tunnels, it is said, may be filled or emptied in a few minutes.

Large shelters, the British emphasize, should possess a simple floor pattern, to avoid panic.

Large air raid shelters, the manuals tells us, should have duplicate exits. No single shelter should accommodate more than 50 persons

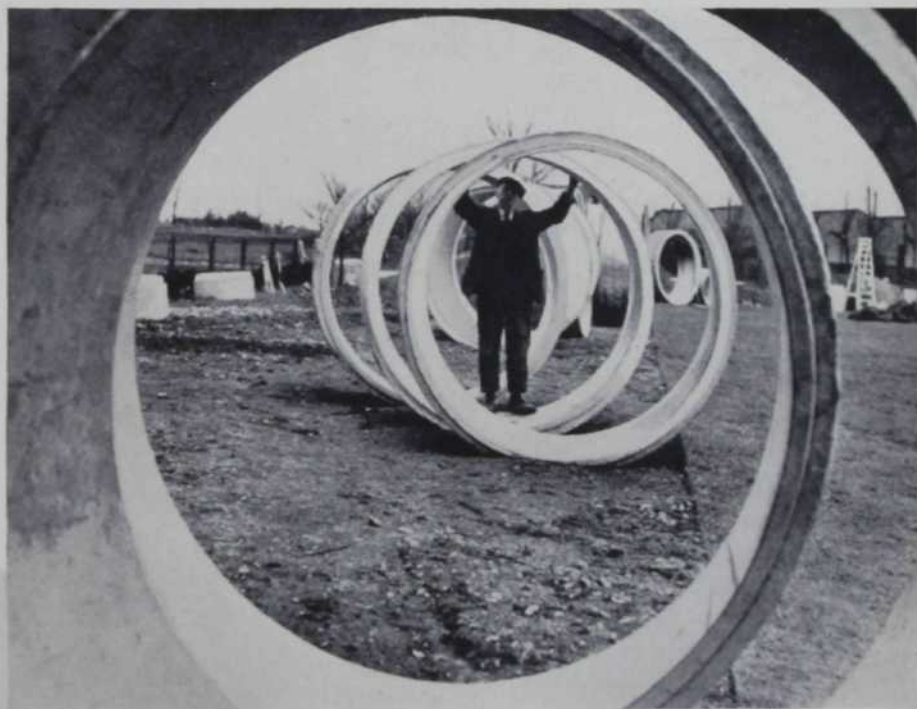
in a single room, for separation tends to localize the dangers.

The well furnished shelter will be equipped with mechanical ventilation, screened toilets, water, light, and amusement facilities, since morale is highly important in war time. Lighting facilities must be provided, if only by candles, batteries, or a bicycle generator.

Evidently air-raid shelters are a costly business. Yet they are not always a dead loss. In peace time some air-raid shelters may be used for

storage or other purposes, it is stated, provided they are easily cleared. Some British architects hold, however, that a good air-raid shelter is of use for little else. There may be some consolation in the fact that many structural refinements recommended as air-raid protection could be used as well to lend added safety in areas subject to earthquake, flood, or hurricane. Incidentally, thicker, missile-resistant walls are more weather-resistant and also

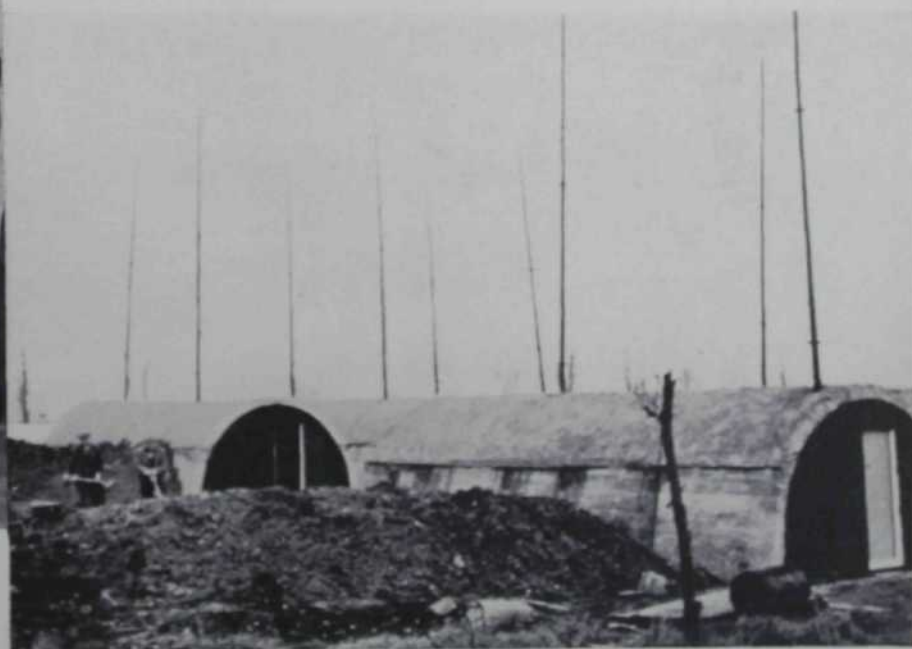
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Sections of concrete tubes which will be joined together and buried to make shelter for employees of Saville Perfumery Co.

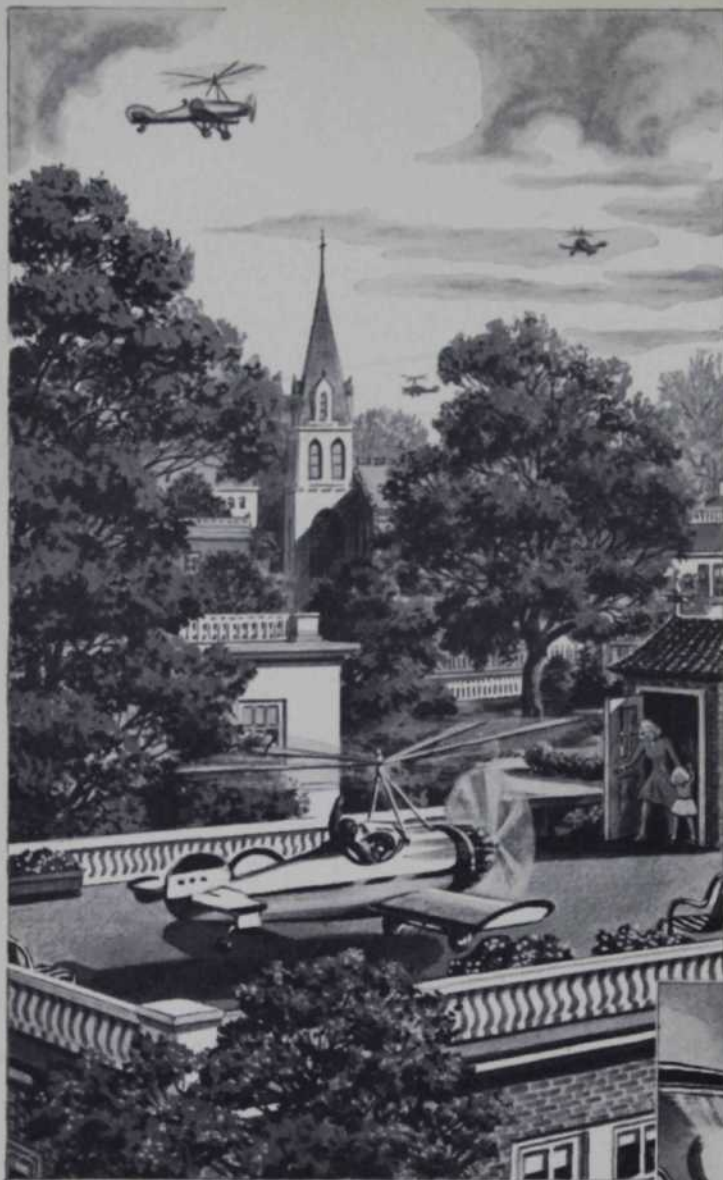


Girls in gas proof clothing under decontamination shower at Ilford factory



Modern anti-air raid dugouts at Enfield factory. Tall pipes installed as air vents—high enough to be clear of poison gas level





A small plane of the gyration type that could land on roofs would solve congestion problems

**T**HE FRONTIERS are gone! There is no longer an opportunity for youth! America is finished! One may not expect the impossible!

Who said that? Not the inventors; Kettering said, "There is a frontier wherever the mind is not closed." Not directors of research; Whitney said, "The impossible is only that which has not yet been done." Not a group of bankers; this year they undertook to learn from industry what research might do for them. Certainly not far-sighted industry. This year more than a thousand industrial leaders replied to the question, "What new product, process, or material might industrial research develop that would be valuable to your industry?"

The belief that we need expect nothing new seems to be confined pretty largely to certain sorts of economists, some politicians, and those who, unfortunately, were born pessimistic.

Many of the answers which the banks received from industry show a confidence in science as applied to manufacturing problems which can only come from satisfactory experience. Industry is turning to science as never before. More than that, there has come a real-

# Industry's Wants

By HARRISON E. HOWE

ization that science nowhere is more potent, that research men are no more resourceful nor inspired elsewhere than right here in the United States.

The mere expression of a need is not quite enough. It is not as simple as that, although a clear statement of a problem is often a large part of its solution. Somewhere answers may be waiting or nearly ready for many of the requests expressed by industry. In most cases, however, they constitute a challenge to research and as such are welcome.

From the more than 1,000 replies which made a 375-page manuscript, a 43-page summary has been made, with the statements classified under 34 industrial headings.



Much has been written and many experiments have been conducted for the use of plastics for auto doors and bodies at low cost

NATION'S BUSINESS for December, 1940



# Underwrite Our Future

**THE persistent effort of business to lift the standard of living belies the fear that the market for ideas and skills is closed . . .**

From a dozen of these, typical subjects have been chosen to show something of what industry is thinking. Let us begin with the building and construction industry.

One of the things that is wanted is a bathroom chassis to which the various fixtures may be quickly attached, thus eliminating much expensive field work and permitting vast improvements in bathroom cabinets, lighting, and so on. This would be useful in the low-cost house particularly where bathrooms seldom vary from a fixed standard.

With new fluorescent units for lighting, a low-cost built-in lighting system for homes and offices should be devised. Economical acoustical tile, fireproof and nonwarping, with high light reflection and good sound absorption and noise

**The problems put up to researchers demonstrate that the nation's unfinished business still provides frontiers of opportunity**

reduction would find a ready market. There is need for a thoroughly reliable inexpensive thermostatic mechanism for mixing hot and cold water to deliver a blend at a constant temperature, irrespective of pressure changes in the supply lines. The price should be low enough to interest small home owners.

Construction methods should be improved to eliminate the necessity of conventional framing. A method of inserting truss members or bracing between sheets of plywood on some kind of linderman joint would afford strength, rigidity and connectors for successive panels.

Closely related is air-conditioning and heating. A low-cost dehumidifier for industrial purposes is greatly needed.



Ship builders could use many things with a durable paint for ships' bottoms high on the list of needed inventions



Simple things would receive a real welcome. A really non-skid floor wax is urgently wanted

EDWARD F. WALTON



Equipment to deodorize the air as it is discharged from a fan used in connection with a dust filter is a further need. Since air containing obnoxious odors cannot readily be returned to the building, even though it is dust-free, the heating problem becomes acute.

A means by which moving air may be sterilized in a heating system would meet a demand. Some say the greatest source of trouble with all air-conditioning is the draft created through the circulation of the air. Cannot someone devise a method to eliminate these drafts?

Other opportunities for invention involve a method of using the same equipment for heating air as well as cooling it. A combination cooking range and house-heating unit for low-cost homes, where coal is burned, would help. It should be completely insulated, so that only the part for cooking need be used in the summer, while sufficient heating capacity should be available for five relatively small rooms in winter.

A domestic anthracite coal burner constructed to prevent the escape of fine ash during shaking, together with some means of ash disposal requiring infrequent attention, would be welcome. The elimination of fumes and dust particles from high-temperature gases given off by factories adjacent to residential sections is wanted, and someone with good imagination has suggested that an economical method should be devised to store the cold of

winter for summer use, and *vice versa*.

In an industry so new as aeronautics it is obvious that many needs must exist. A material to which ice would not adhere for use on airplane wings, highway surfaces, windshields, and so on has been recognized as important for some time. Improvements in methods of aircraft construction to achieve absolutely smooth external surfaces without introducing serious maintenance problems are in demand. Perhaps flush riveting or spot-welding may be the answer.

### Improved engines wanted

LIGHT-weight, low-cost accessories such as fuel pumps, ignition apparatus, starters, and carburetors for aircraft engines come high in the list. What is saved on these accessories might make possible a low-cost 100 horsepower engine. A small airplane, inexpensive and of the gyration type, that would land on a flat-roofed building or in a small space might mean relief from dwelling house congestion by scattering the population over a larger suburban district. We still face the problem of dispelling fogs locally over airports.

The electrical industry realizes that there is a never-ending list of new things to be done. A real nonglare automobile headlight is still awaited. Someone suggests a device employing a photoelectric cell which would automatically dim automobile headlights when another car approached.

The market would like a sparkplug that is not subject to burning of points under conditions of full engine load operation and will not foul when the engine is idling. A vari-speed electric motor which will give constant horsepower at any of its speeds; a method for applying refrigeration to the cooling of electrical machinery; and a method of salvaging used electric light bulbs are listed. The waste in bases of photoflash lamps alone, discarded after a single use, is considerable.

Then we need lighter weight batteries for pick-up radios. Automobiles could use storage batteries without a corrosive electrolyte.

Such new services as television, facsimile, binaural systems, and the like find their greatest applications in very high frequencies. A transmitting tube for use on such frequencies is in order and an entirely new field might open up were it possible to obtain high transmitter powers on these frequencies.

Although scores of plastics are available, there are demands for variations better suited for special purposes. Thus plastics suitable for food containers, light weight, odor-free, slightly flexible, practically unbreakable, capable of taking a tightly sealed cap, and of withstanding temperatures necessary for sterilization would be a great advance. Who will devise a method to eliminate the present costly plastic molding machines and molds?

(Continued on page 64)



In an industry as new as aeronautics, it is obvious that many needs must exist. Among them, and one of the gravest, is the problem of dispelling fog locally over airports



# Texans Ride the Tax Range

By JULIAN CAPERS, JR.

**MANY** business organizations have felt that they could not cope with tax problems without getting into politics. Texas proves that they are wrong

**T**HE TIMIDITY which has frequently prevented American business men from using their strongest and most effective weapon—their chambers of commerce—in defending themselves and their fellow citizens against waste and inefficiency in the expenditure of tax money is as groundless as some of the other traditional ideas of what a chamber of commerce can or cannot do.

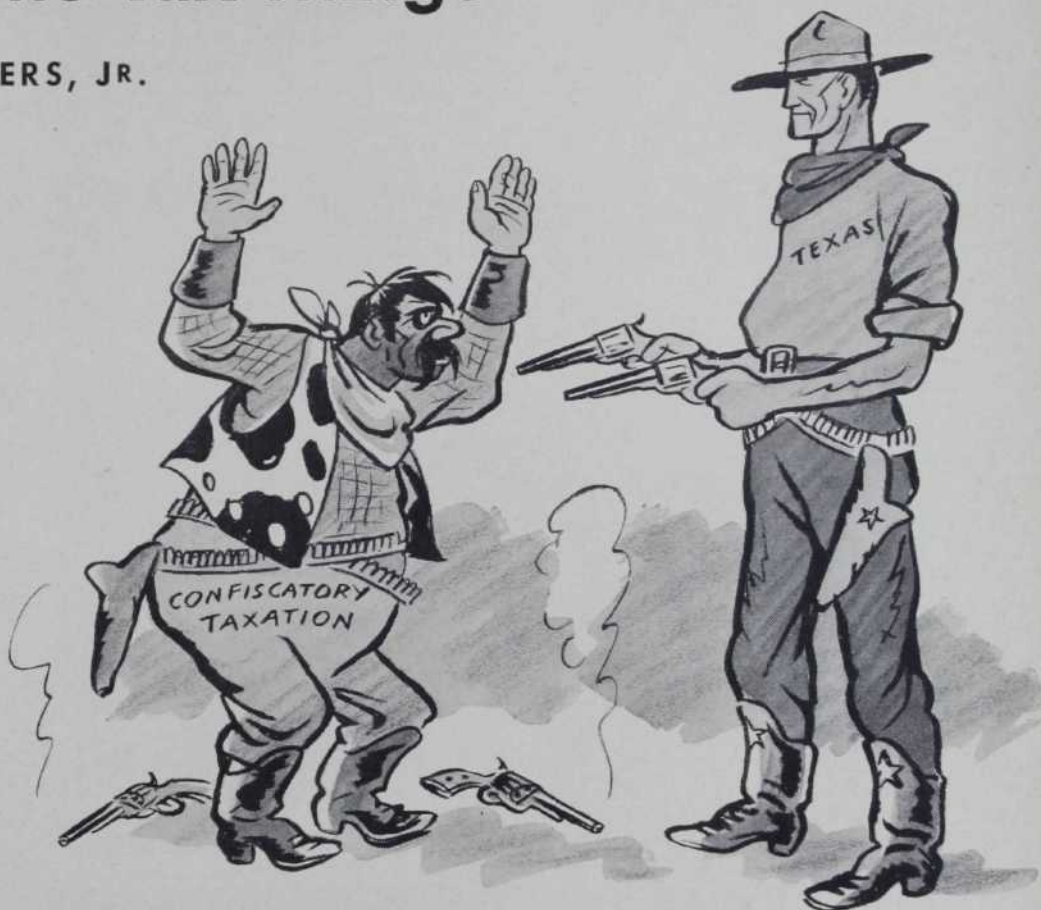
That conclusion has been definitely reached by the officers and directors of the East Texas Chamber of Commerce, with headquarters at Longview, after two years' of successful experience in a regional tax control program in an area embracing 70 counties, which include more than half the 6,000,000 population and more than half the wealth of the state.

Texas is big. So are its people. The state has a history and a heritage of pioneering against and overcoming tremendous difficulties. Texans have a habit of finding a way to accomplish what they set out to do, and they are not deterred by the fact that nobody has ever done a thing, or tried to do a thing, in some particular way that seems workable to them.

Texas business leadership shares this attitude.

So, when the problem of local taxation became acute two years ago, as a result of a combination of circumstances involving the business depression, the discovery and development of great oil reservoirs, and other factors, the 50 directors of the East Texas Chamber of Commerce evolved a plan.

The East Texas Chamber of Commerce, organized 14 years ago, serves an area which includes the cities of Dallas, Galveston, and Houston, the East Texas oil fields, the great refining



CHARLES DUNN

Texas has a heritage of pioneering against difficulties and its people accomplish what they set out to do

and export centers, large areas of farms and timberlands and hundreds of small towns and villages.

## Too many taxing units

**UNDER** the Texas tax system, the general property tax constitutes the chief burden of taxation imposed on business generally. The great bulk of this tax—imposed on such properties as stores, buildings and machinery, stocks of goods and oil under the ground—is levied, collected and spent by local taxing bodies. In Texas there is a plethora of such civil subdivisions, all authorized by the Constitution and the statutes to levy taxes and issue bonds. They include 254 counties, 609 incorporated cities and towns, 5,715 common school districts, and 1,020 independent school districts. Drainage districts, levee districts, water districts, road districts, irrigation districts and miscellaneous independent districts for other conservation purposes, increased the total of tax-levying and tax-spending bodies to approximately 9,000.

That these various taxing groups overlapped, imposing a severe tax load

upon the same property, was obvious.

The Chamber directors agreed that something had to be done about it.

Hubert M. Harrison, executive vice president of the Chamber, had made a careful survey of the situation. He had a remedy to offer.

Harrison explained that only 15 cents out of each dollar of *ad valorem* taxes levied in Texas went to the state. The other 85 cents went to the local taxing bodies. Local taxation in that year (1937) had reached the staggering total of \$134,185,515, while state *ad valorem* taxes collected totalled only \$15,503,567.

Obviously, then, the proper place to start cutting out waste and installing economy, was in local government. The survey showed that the source of greatest waste and inefficiency, was in county government. The 70 county court houses in the East Texas area, then, were the logical objectives toward which the economy offensive should be directed.

The suggestion brought out the usual objections. The chamber of commerce, which heretofore had done an outstanding work in promoting di-



versified agricultural development, in stimulating retail trade, in industrial development, and along other customary commercial lines, mustn't venture into this field. Friends of county officials, hurt by the revelations of waste and inefficiency, would be alienated from the membership. Everybody knew that a chamber of commerce couldn't handle anything that involved taxation, because that would get it into politics.

Harrison stood his ground. He didn't see why business men, who operated businesses, owned property, paid taxes, employed workers, should sit idly by and see those things destroyed by confiscatory taxation. Besides, the East Texas Chamber of Commerce didn't speak for or represent "big business" by any means. Included in its active membership were hundreds of small merchants in little towns, farmers, ranchers, livestock raisers. Every time a local county commissioners' court reduced the tax rate five cents on the \$100 valuation, it would mean a proportionate saving to every farmer and home owner in that county, along with the general store, the owner of the office building, or the corporation that owned oil wells or a refinery.

He proposed to get some tax rates lowered.

Furthermore, he didn't propose to have the East Texas Chamber of Commerce get into a controversy with any local official. He didn't propose to get into any political jams or support or oppose any candidates for office. He only proposed to get an able tax man to analyze the complicated figures that were to be found in the books in the average East Texas county court house and break them down so that a sandy

land farmer in Titus County, Texas, for example, could understand just how much money his county was collecting in taxes, how much it owed in bonds, and what the money was spent for.

In other words, Harrison's plan involved a strictly fact-finding operation.

To implement the economy program, he didn't propose to have the East Texas Chamber of Commerce go into any county and get itself involved in a brawl with local officials. East Texas folks are a bit clannish, and they would resent an "outsider" "trying to interfere" with the local tax situation.

### Let the local folks check up

BUT Harrison knew that pressure would be necessary, after the educational work was done, to force some recalcitrant county spenders into line. So his plan embraced the organization of local taxpayers groups in every one of the 70 counties—local folks, who knew the commissioners by their first names. Not only the local bankers and storekeepers and doctors and lawyers, but the local farmers who wore overalls and had calluses on their hands.

He reasoned that the pressure would and should come from this group after the facts were made available.

Although the board members had some lingering doubts, they voted unanimously to try Harrison's plan.

That was in the spring of 1938.

As a first step, Harrison hired a man to handle the big tax job. He knew that the program's success depended largely upon getting the right man. He considered many, and eventually selected Curtis Morris.

Morris is a quiet, studious type, in his late thirties. He has a background

of experience as a teacher of economics in a small college, several years in general chamber of commerce work, and a broad practical experience in research and accounting practice.

Morris selected typical counties where preliminary study of the financial situation indicated need for radical reform. Meetings of local citizens, sponsored by local "town Councilors" of the East Texas Chamber of Commerce, and by local chambers of commerce in the counties, were arranged. Morris made speeches, outlining the proposed method of tax control, urging the need for economy. He pointed out that, while Texas folks get exceedingly worked up over various issues involving methods of raising money for the state, the average taxpayer had paid little or no attention to the local taxing setup, and the method of spending its yield.

The foundation of efficiency and economy in local governmental fiscal operation, Morris pointed out, is intelligent budgeting of expenditures. Texas has had for years a budget law which requires local taxing units to hold public hearings on a budget before its adoption. He found that, in many counties and other governmental units, the law had been ignored. Since it provided no penalty for violation, nobody ever did anything about it.

Morris proposed that the local taxpayers' groups use the pressure of public opinion to force each governmental unit to adopt a budget. Permanent organization of the taxpayers groups followed each meeting and, much to everybody's surprise, the educational task was not difficult. Many folks, it seemed, were learning for the first time some fundamental facts about waste

(Continued on page 72)



Approximately 9,000 separate tax-levying and spending bodies took toll from the taxpayer



# City of Salt, 1073 Feet Under Ground

By JOHN WINTERS FLEMING

**SALT** in car load lots is turned out at low cost to the consumer by industrial geniuses who have applied modern mechanisms to an age old industry

**A** SCORE OR SO miles south of Rochester, N. Y., and 1,073 feet beneath the earth at Retsof, a hamlet so tiny that many maps omit it, lies one of the world's greatest industrial wonderlands, the western world's largest salt mine. Its more than 1,000 subterranean acres comprise an underground metropolis of salt as vast as Lower New York City.

On Wednesday, November 1, 1939, there rolled forth from this crossroad community a record shipment of 30 carloads carrying 2,500,000 pounds of salt.

The 1,073-foot descent into the mine takes two full minutes and leads to an underground office and drafting room with floor, walls and ceiling hewed from

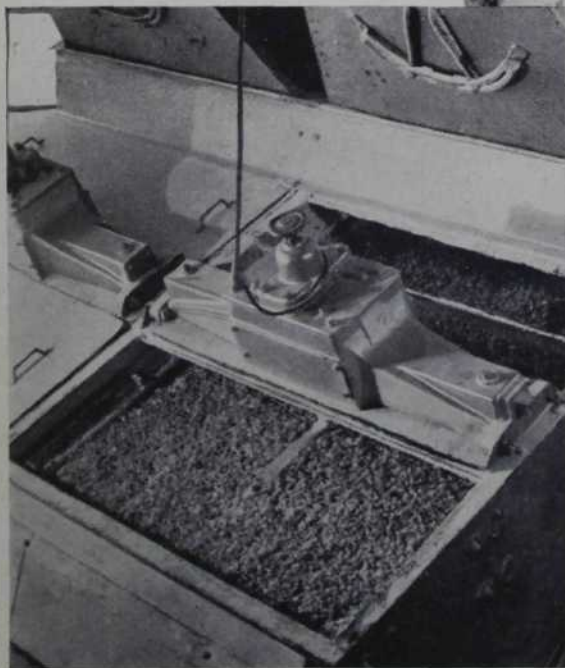


Floor, walls and ceiling of the foreman's office and drafting room are hewn from salt. Temperature never varies from 63 degrees

PHOTOS BY RITTASE, COURTESY OF INTERNATIONAL SALT CO.



This side-shearing machine bites out a vertical slot nine feet deep from top to bottom in preparation for blasting



Salt is graded accurately into various sizes by shaker screens

solid rock salt. Here, as throughout the mine, nature maintains a never varying temperature of 63 degrees Fahrenheit, well nigh ideal for working.

Opposite the foreman's office is a vast modern

machine shop, 195 feet long, 30 feet wide, and, with its several adjoining auxiliary shops, averaging 9½ feet high, all hewed from rock salt. Ventilation is provided by fans and air ducts. Modern lighting comes from 55 500-watt indirect units with plastic reflectors and from mercury vapor lamps over all machine tools. Machines stand



on concrete beds set in solid rock salt and are individually driven.

It is a 15-mile walk around the perimeter of the mine and you can walk every step of it without bumping your head. Some corridors in the mine extend for more than a mile and a half in one direction.

Undercutting and side-shearing machines cut vertical and horizontal slots in the salt and allow the explosive to expand with the least resistance, which makes for greater efficiency and safety. The mine is proud of its safety record of 1,338 days without a single "lost time" accident.

When the vein is ready, powder men anchor their mechanical drills to floor and ceiling and drill powder holes ten to 12 feet deep into the face of the vein at the rate of three feet a minute. To blast down a huge block of solid rock salt—55 feet wide, ten feet deep, 9½ feet high—60 powder holes are drilled.

Mine cars are backed into the corridors by little electric locomotives that carry their own "trolley wires" with them, their power being supplied by long cables rather than by trolley wires. When several mine cars have been filled they are hauled to the main

line to be collected in long trains for their run to the gravity yards near the foot of the mine shaft. The main line is a 40-foot-broad, well-lighted "right of way" with a 36-inch gauge track over which the diminutive electric locomotives haul trains of 25 and more loaded mine cars.

The subway system that serves this subterranean city of salt is reminiscent of the subways of metropolitan cities. Especially is this so when the brilliantly illuminated platforms are thronged at changing shifts with the 82 men who work the mine.

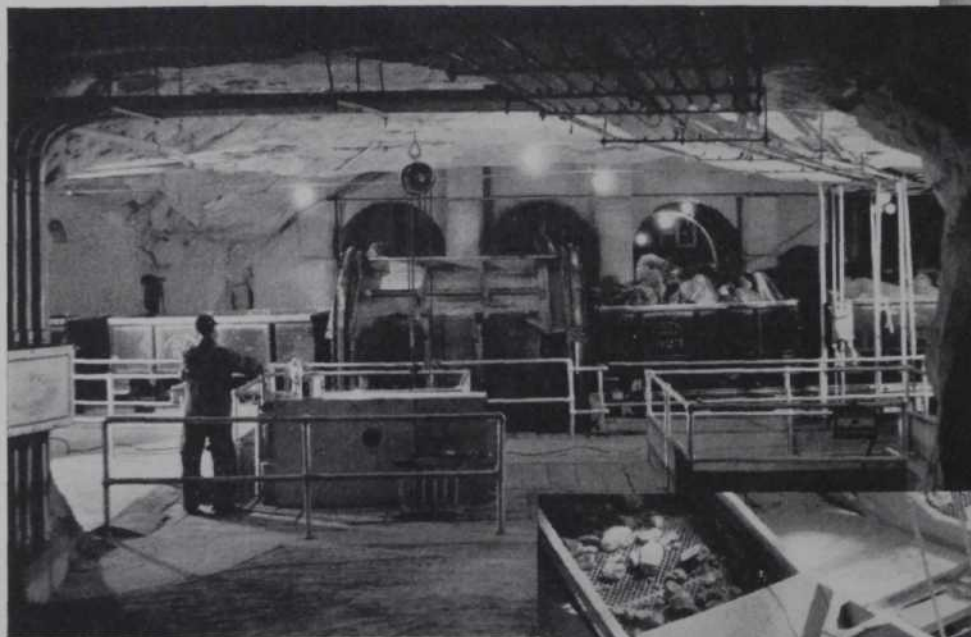
In the gravity yards, the mine cars are run to the rotary dump, a Gargantuan salt-shaker if there ever was one. An operator throws a small lever and the rotary dump turns car and cargo upside down, tumbling the salt through a chute and into a giant crusher.

This crusher breaks up the large lumps of rock salt into eight-inch chunks. In this form the salt enters the "skip" which carries it to the top of the breaker house from where it tumbles down

to earth again through various crushing, screening and grading operations to meet different commercial requirements.

Rock salt is still tough and batteries of big powerful crushers, installed in the breaker house on floors below the primary screens, are needed to crush the eight-inch chunks into the various smaller grades desired.

From the storage bins, the salt flows by gravity to be mechanically weighed and packed in shipping sacks which are stitched shut by machine. The filled sacks are belt-conveyed to loading machines at the freight car door. Even when shipped in bulk the salt is loaded mechanically.



A rotary dump turns mine car and cargo upside down into a chute leading to giant crusher



Bags of salt are belt-conveyed to loading machines at freight car door



Salt is dumped from loaded skips onto screens that give it primary grading and allow first inspection



# No Business Can Escape Change

## The fair weather business seeks comes from the smiles of satisfied customers

**1 •** A TOOL for motorists who must change wheels combines a device to remove hub caps without damaging them and a magazine wrench which will hold the lugs from two wheels at once and release them to put back on the wheels without touching a lug.

**2 •** THE familiar cone-shaped paper drinking cup is now available with a rolled paper rim to make it more sturdy and allow easier drinking. It nests in the same size containers as the plain-edged cups.

**3 •** A NOVEL tray for arranging and holding screws has flanged sides and ends and longitudinal slots into which the screws are arranged head up when the tray is shaken a few times. They are easily picked up by a mechanical device on the screw driver.

**4 •** A NEW floor coating with a chlorinated rubber base is quick-drying, not affected by alkalies or soaps, waterproof, can be used outdoors or in, can be brushed on like paint, for either wood or concrete. When thoroughly dried it is resistant to gasoline and oil.

**5 •** A NEW type office desk has been developed from which, with the same base but with different tops and typewriter platforms, 11 different types of desks can be obtained. Double and single drawers in various combinations are available. It is made of steel and wood.

**6 •** TO COMBINE the efficiency of direct lighting with the comfort of indirect lighting a transparent plastic is now made with very thin parallel translucent louvers or slats running through the sheet at right angles to the surface. The louvers, either white or colored, are hardly perceptible at normal distance but are strikingly effective in control of light.

**7 •** NEW industrial scales for over and under checking are made with a weighing platform only 6½ inches from floor, a revolving dial to be seen from any direction, high-speed, portability, capacity of 100 or 150 pounds.

**8 •** A ROLLER chain of specially small size (8mm. pitch and weighing only 1¼ ounces a foot) is now made. It has an ultimate strength of 1100 pounds. It is applicable for high speeds, light machinery, facsimile models and the like.

**9 •** FOR garages and service stations engaged in road service there is now made an emergency starting battery that starts a motor quickly. It has extra long cables so that it need not be installed in the car to be started and four cells supplying eight volts in contrast with the normal six volt battery.

**10 •** AN interval timer for control of mixers and other industrial equipment which can be automatically timed is made in a dust-tight and splash proof housing for conduit connection. It has a full-vision window and external setting knob.

**11 •** FOR listing phone numbers and addresses there is a booklet that has on its face a dial resembling that of automatic telephones. After using one finger to turn the dial to the right letter, the book opens itself at that page.

**12 •** AN electric hot-plate for table use from a wall outlet has been modified to allow simultaneous frying and boiling. In addition a drawer opens under the griddle to permit toasting or broiling while frying proceeds. Interlocked switches make for efficiency and prevent overloading burners.

**13 •** HELMETS for football players are made of transparent plastic with interior web suspension. They are eight ounces lighter than leather, said to give greater resistance against shock. School colors, painted inside, show up well.

**14 •** A NEW floor wax with improved non-slip properties is now made by combining a synthetic resembling rubber with the wax. It's resistant to sunlight, abrasion, heat.

**15 •** FOR outdoor displays there is now made a system using combinations of lights and colors such that the lettering or symbols appear to pulsate or stand out from the background to attract maximum attention.



**16 •** FOR photographers there is a new wash tray which admits water through a number of small jets to keep the prints in circulation and to wash both sides at the same time. It is made of a plastic.

**17 •** WOOD can now be thoroughly impregnated with plastics to give soft wood the advantages of hard and strengthen hardwood. It is almost splinter-proof, does not decay, is fire-resistant, can be made in colors.

**18 •** A NEW dictating and recording machine uses wafer-thin alloy discs (165 to the inch of thickness) which play 15 minutes on each side and provide an easily filed permanent record. The machine can be used for ordinary dictating, to record conferences, and for other recording.

**19 •** INKS for stamp pads are now available which will dry on practically any surface. They are primarily for use in stamping on metals, varnished paper, tracing cloth, plastics, and the like.

**20 •** A FLASHLIGHT is now made with the lamp and reflector on a swivel head to throw the light at any point in a 180 degree angle. It has a metal pocket clip and a bottom-ring hanger.

**21 •** AN electro-sensitive recording paper for facsimile telegraphy or automatic recording devices gives a dry-recorded record that is ready for use immediately. It shows a permanent change of color where an electric current has passed through.

**22 •** A NEW and inexpensive paging unit when dialed to the person wanted sends his signal simultaneously to all departments on the premises. Chimes, bells, or gongs may be used.

—W. L. HAMMER

EDITOR'S NOTE—This material is gathered from the many sources to which NATION'S BUSINESS has access and from the flow of business news into our offices in Washington. Further information on any of these items can be had by writing us.



# Washington and Your Business

## Reflections on a Push-over

EVENTS following the election recall the poet's description of the lady who, swearing "she would ne'er consent, consented." The commitments which had not been made are now lining up at the captain's desk. We were to be kept out of war, but observers note that Mars seems to be rising in the East. There is a reasonable certainty that more ships will be traded to the British, and it's a two to five bet that some way will be found to lend them money. No objections are being raised in this corner to these proceedings. The poet's lady probably suspected all the time what was about to happen to her.

## Those Islands Are Optioned

REPORTED by an Admiral, who must remain anonymous because in the be-buttoned services candor is not regarded as a virtue: "All we got when we swapped those destroyers to the British was an option on certain Caribbean bases. If we get them, we must pay for them." On looking backward at the transaction it does seem that the details may have been slightly cloudy. But perhaps the Admiral was wrong. Admirals have been wrong. Maybe we really did a good stroke of business.

## Rather Have a Lei or a Lei?

ONE kind of a lei is a wreath made up of Hawaiian garden sass. The other sort is money in Roumania. Neither is of any real value. These unimportant facts occurred to this department in recalling that immediately after the first war it was possible to buy in Bucharest a German made camera which was at one time priced at \$500, for the sum of ten dollars American, converted into country money. This was before we got our gold reserve mixed up with the chicken-farming business over here. "If I bought it, and wanted to sell it back, how much American money would you give me for it?" "Nada" said the merchant. "Nix. Not a dime. If I get any real money I'll keep it."

## Bankers Asked to Kiss Papa

IT WAS on November 7, two days after the election, that Secretary of the Treasury Morgenthau asked for an increase in the national debt limit to \$69 billions. This would care for the outgo until 1942, which by chance is a year in which the congressional heart will expand. On November 9 it was made known that the prospects of inflation were considered so definite that the Government will ask more power over the banks. The weapon against inflation considered adequate in the past—that of raising Federal Reserve ceiling on reserves—is now officially regarded as inadequate. The Treasury officials want the FR bank act extended to cover all banks.

## Another Pure Coincidence

BY AN odd chance the departure of the first borrowing mission from South America for this country was accompanied by this statement from an authority on money affairs: "European countries—England, France, Germany, Italy—have been making political loans to weakish countries for a century past. None were ever repaid in money."

Not that any good neighbor would ever suggest that any South American country is weakish.

## "Standing with Reluctant Feet"

THE F.C.C. seems to be standing on the brink of another horror, and not quite decided whether to leap on or inch back. Hotels are usually charged five cents for each phone call by the telephone company, and nick the customer another nickel for the service, which includes snappy backchat with the pretty operators, the exchange of messages, an enormous amount of unpaid energy in locating Mr. Schmalzer in the bar and the name of the blonde who just walked through the lobby. The F.C.C. is adding 54 employees to check on the toll and long distance telephone business and it is too much to hope that this nickel-nipping by hotels will pass unnoticed. It may be that the interstate commerce law will hold the F.C.C. at bay.

## Mr. Little's in Big Business

NOTHING can hold any government bureau at bay very long, of course. Under some of the recent decisions Mr. Little finds himself in business which he thought belonged entirely to Mr. Big. The Interstate Commerce Act clamps down pretty decisively on business men who do business across a state line, but that little printer must have tasted both ventricles of his heart when he found that because he had sold a mess of billheads to a neighbor who does a nationwide business he had plumped into interstate business along with Sloan, Ford and Tom Girdler.

## Spot for a Nature Jotting

THIS department reports with trepidation that considerable sour talk has been heard of the decision of the Supreme Court in the Montgomery Ward case. This granted government agencies the right to compel any business to open its books to any inquiry, even if no charge of any sort had been made. The complainants sprinkle their totally inconsequential chatter with incomprehensible stuff about *habeas corpus* and the Bill of Rights and every man's home is his castle. Horse and buggy rebellion.

## Say It's Not So, Mr. J. C. Dooley

THIS department flinched perceptibly when J. C. Dooley—one time personnel boss for the Socony company—personnel expert with the labor division of the Advisory Commission to the Council of National Defense, said: "The defense program will need the services of 8,000,000 or 10,000,000 men." This department dropped the subject, because it cannot see where all the money is coming from unless we go to war, which is a horse in a different stream. Mr. Dooley figures that man-power alone will cost \$15,000,000,000.

## Here's a Shot of Semantics

MR. DOOLEY is not so much interested in how many men, however. That is Dr. Isadore Lubin's baby. Mr. Dooley's job is to find the trained men and tell industry and labor how men can be trained: "We cannot order 'em," he observed. The new idea is to "upgrade" them, which is the





# The office can learn from the factory about **COST REDUCTION**



Many executives accustomed to studying cost reduction methods in the factory are beginning to realize that the same fundamental principles can be applied to reducing office costs. For example:

## In the Factory

Operations are studied to eliminate all possible waste in time and effort.

Many operations are combined to avoid costly rehandling of the work.

Employees are shown how to avoid unnecessary steps and motions.

Each employee is equipped with the proper tools or machines for each job.

Outmoded machines are quickly replaced with modern machines.

## In the Office

Studying the work on each desk eliminates wasteful routines.

Related records can now be produced in a single handling.

Operators can use short-cuts to obtain accurate results with less effort.

The right machine for each job assures a greater return on office salaries.

Modern office machines can effectively replace outmoded equipment.

Burroughs will gladly explain the many ideas recently developed for reducing office costs. Call your local Burroughs office today.  
BURROUGHS ADDING MACHINE COMPANY, DETROIT, MICHIGAN

# *Today's* Burroughs

**DOES THE WORK IN LESS TIME—WITH LESS EFFORT—AT LESS COST**



semantical way of saying promotion. A green boy can be snatched out of a cornfield and in four or five weeks' time made into an expert competent to do one particular job perfectly. The "upgrading" scheme is to teach him to do perfectly the two or three jobs which lie on either side of his regular job. This ensures against vacancies in key positions. The odd part is that it has not been easy to sell the idea to either industry or labor.

### He Wants 'em to Break Clean

merely getting ready against a future danger that might never become a reality labor is insisting on protecting the apprentice system, which governs tomorrow's supply of skilled and highly paid men, and industry does not want to load up with skilled men who will lose their jobs when and if the catastrophic bust comes with the peace.

### Labor in the Next Four Years

might enable any politically minded Administration to upset the formation of any national labor organization. The N.L.R.B., for instance, has ruled that a neighborhood soprano—perhaps the most completely amateur organism in all Nature—cannot sing over the radio except with the permission of Mr. Petrillo's national union of musicians. The decision was not stated in precisely those words, but that is what it means. How long would Signor Petrillo last if the N.L.R.B. went into reverse? The judges preferred to think that organized labor will be willing to see the Wagner Act made into a fair and honest law, instead of a pike for partisans.

### A Follow-up on Dooley's Plan

that death, retirement and transfer have taken 1,600,000 men out of the ranks of skilled labor in the past decade and that not more than half this loss has been made up. As a result, he said, the nation is heading into its desperately important defense effort with 12 per cent fewer skilled workers than it had at the bottom of the depression of the '20's. No wonder the Defense Commission talks of bottlenecks.

### Beer Blackout Is Threatening

girl-child toting steins of beer to the fat guys in the car may be pleasing to the eye, the brewers say, but has a bad effect on a lot of earnest voters. The brewers say that if they—the brewers—do not succeed in stomping out the beer-ranches all may be lost again.

### Maybe Mamma Knew Best

R.E.A. supplies government boosting, evangelism, guidance and lends very cheap money to cooperative enterprises in localities from which the utilities were barred

A GUESS might be that, if industry and labor believed the country is in actual, imminent, tomorrow danger of a war, there would be no fussing about upgrading. If the country is

MEANWHILE, some good judges think that both the C.I.O. and the A.F. of L. leaders may do some really valuable thinking during the next four years. Control of the N.L.R.B.

MR. DOOLEY'S plan to "up-grade" labor trainees calls attention to the statement recently made by Professor Slichter of Harvard at a General Motors' Round Table, to the effect

THE brewers are sincerely alarmed at the prospect that prohibition is on the march again. They say candidly that the epidemic of 15 year old "hostesses" in some of the thirst-

THE R.E.A. seems to have made the somewhat belated discovery that the enlightened utilities—such as the ones that Wendell Willkie ran—knew their business pretty well. The

by some of the simpler economic laws. If the co-ops could sell enough juice, all would be very well, but the third utilization survey, covering 43,000 families, shows they are not selling up to the prospectus.

### Good Word for Harry Slattery

to talk to a utility man in ordinary conversational tones. He is not only not looking for a scrap, but is actually cooperating.

The R.E.A. and the Bell Company are working together in an effort to develop the "carrier circuit," which would permit telephoning over power lines and thereby increase both telephone and power business, with excellent prospects for success. Slattery points out, too, that the better part of the power the co-ops use is purchased from private utilities.

### Spreading the S.E.C.'s Skirts

Washington and had to move out to points west. It has abundantly inconvenienced the taxpayers. The S.E.C.'s branch homes will be in Chicago and San Francisco. Now that election is no longer a distraction, the move may be ordered at almost any moment.

### Parks are a Lucky Service

them keep their camps clean, scares the living daylights out of those careless with flaming matches, guards the game sanctuaries and in spare hours fights off the men who want to run sawmills on the park timber and set up hydro-electrics on the park streams. Newton B. Drury of San Francisco is the new Chief Parker, succeeding Arno B. Cammerer, a park service man who succeeded Horace A. Albright who was a park service man who succeeded Stephen Mather, who created the park service by hammering on public ignorance and indifference until it glowed. Drury has been identified with the California State Park movement.

### Wonder Who Will Be His Twin?

better in double harness. Chief Forester F. A. Silcox died almost a year ago and the delay in filling the post has created some fear that some one not a trained forester will be named in his place. The Service is getting jittery about it. Rex Tugwell is talked of.

### Take the News to Mother!

LADIES interested in the conscript army will be happy to learn that the boys will march in soft pants if and when they go to war. During the curtain raiser of 1917-18 some American uniforms were woven from South American wool that felt like the backside of an Axminster carpet, and were about as warm as galvanized iron. In 1940 more wool is available, the quality is better, and there is a backlog of 250,000,000 pounds of Australian wool, owned by the British Government, but freight and custom paid and

THE new chief of the R.E.A. seems to be taking a businesslike view of the situation. Harry Slattery succeeded John M. Carmody some months ago and seems calm enough

HIGHLY likely the S.E.C. will follow the example of the Internal Revenue Bureau and decentralize a bit. The plan has worked very well for the I.R.B., barring those unfortunate employees who were paying for their homes in

"HE'S all right" said Horace Albright. "He's on the job. He's good." Millions of Americans come in direct or indirect contact each year with the National Park Service. It makes

THE Forest Service is the twin of the National Park Service. Sometimes it's hard to tell where the parks end and the forests begin. Either might function alone but they do

LADIES interested in the conscript army will be happy to learn that the boys will march in soft pants if and when they go to war. During the curtain raiser of 1917-18 some American





## For Distinguished Service

THE BADGE YOU SEE HERE is a coveted emblem... a symbol of 20 years of loyal and efficient service to Metropolitan's policyholders, and to the communities in which they live.

Today, more than 1,500 active Metropolitan Life Insurance Company field-men are proud possessors of this badge.

Over 7,000 members of the field organization have been in the business from 5 to 10 years; more than 3,800 enjoy 10 to 15 years of experience; and over 1,800 from 15 to 20 years. Fewer than one out of every eight field-men have served Metropolitan policyholders less than two years.

These years of continued service have an important bearing on the quality of advice and help which policyholders receive from Metropolitan representatives in the United States and Canada.

All field-men receive preliminary life insurance instruction before they begin their work of serving policyholders. Thousands of field-men regularly receive further instruction in the many courses conducted by the Company throughout the country.

During 1939, some 567 managers and assistant managers attended special courses; another 1,198 assistant managers received training in the field from the Company's full-time staff of 94 field training instructors. Also, 739 agents, assistant managers, and managers were studying for their "Chartered Life Underwriter" degree. This is awarded only to those who complete specified studies in the application

of life insurance to individual needs and in such technical phases of life insurance as its relationship to problems of taxation and inheritance. Additional thousands of field-men received instruction in other educational projects maintained by the Company—all with a view to assuring policyholders the utmost benefit from their life insurance.

Thus does the Metropolitan agent, with the co-operation of the Company, strive constantly to increase his knowledge and to keep abreast of the times.

The services the agent renders are many and varied. Helping the policyholder select the kind of insurance best suited to his needs and delivering the policy are only the beginning of a long series of services.

Many policyholders pay their premiums weekly, or monthly, and the field-man collects them.

When necessary, agents adjust insurance plans to new personal or family situations. Policies are checked to make sure that desired beneficiaries or contingent beneficiaries are properly named. Dividends are paid or credited.

When the death of a policyholder occurs, the agent often helps to prepare the claim papers and to get the check promptly to the beneficiary. Death claims were paid on an average of over 7,000 policies per week in 1939.

In addition, every week in 1939, more than 75,000 so-called transfers took place

—occasioned by change of address or similar causes. In nearly every case some agent served the policyholder. In almost 7,600 communities where Metropolitan nursing service is available to Industrial policyholders, it is usually the agent who brings word of the policyholder's need for it.

If you need assistance with any problems connected with your life insurance, call in your Metropolitan agent. He will gladly consult with you, and help prepare and file necessary papers. There is no reason for paying anyone to perform these, or similar, services. As a Metropolitan policyholder, you are entitled to the free advice of your agent.

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*This is Number 32 in a series of advertisements designed to give the public a clearer understanding of how a life insurance company operates. Copies of preceding advertisements in this series will be mailed upon request.*

### Metropolitan Life Insurance Company

(A MUTUAL COMPANY)

Frederick H. Ecker,  
CHAIRMAN OF THE BOARD

Leroy A. Lincoln,  
PRESIDENT

1 MADISON AVENUE, NEW YORK, N. Y.





warehoused by the U. S. Government. The British will sell us any quantity if they can spare it and we desire it.

### What is a Virgin Wool?

labelled as made of pure wool or of re-worked wool in whole or part. This is probably an extremely good thing, but there are pure wools that feel like a concrete driveway to the naked back and reworked wools that are soft as silk. The dispute has been raging in the wool business for a generation and may never end.

THAT brings up the matter of the Truth in Fabrics law, signed by the President and to take effect in eight months or thereabouts. By the terms of the law, cloth must be plainly

### Last Wiggle of Snake's Tail

the United States, has had its sundown twitch. What observers believe has been the death blow was provided by the Inter-American Committee in dealing with the coffee problem. Meetings at Bogota, Havana and New York had failed to reach a marketing agreement between the 14 coffee producing countries and the United States, although the problem in its essentials is almost ridiculously simple. By which is meant that we produce no coffee and buy more than any other country. The difficulties encountered in making this modified progress have made clear the impossibilities of the earlier All-American cartel scheme.

IT IS probable that the quaint idea thought up by Wells, Berle and Corcoran for a hemispheric cartel to control all American products, north and south, money to be furnished by

### A Little More of the Same

problem is discovered. Is competition to be regulated by the state in everything—in quarts and pounds and yards as well as in rates—with the consequent multiplication of the bureaucrats we have now, or are we to fall back on the time-old rule that each hunter must skin his own mink? Mr. Eastman is frank about it. He thinks the regulatory process is in the laboratory stage and that no definite answer has yet been found.

I.C. Commissioner Joseph C. Eastman notes that the I.C.C. was founded to regulate monopoly and now finds itself regulating competition.

At which point a new form of an old

### Continuing to Sound Off

mony, they would find themselves in hot water up to their cowlicks. Some of the weak spots in the Transportation Act of 1940, he indicated, were due to the truckmen's inability to get together. He indicated that, if the industry does not take steps to get greater road safety, the Act might be amended to revise downward weights, sizes and speeds.

TWO ITEMS along a related line should find place here. I.C. Commissioner John L. Rogers told the national motor carriers that, if they did not learn how to work in har-

### Squeeze Play by Congress

The Civil Aeronautics Authority originally proposed to spend \$560,000,000, "exclusive of the cost of any land or building" for a network of approximately 4,000 airports. This heated up the hopes of practically every community big enough to be found on a map, but the bill came out of congress with the appropriation reduced to \$40,000,000. What is more, the money spending is to be directed by an Army-Navy-Commerce committee, in which the armed

THE cloud of billions appropriated for the defense program has somewhat obscured an act of congress which squeezed a lot of money out of the six-year-plan of the C.A.A.

services have a two to one control. Only military needs will be considered. No one knows as yet who are the army and navy officers, which handicaps those who would apply pressure. Maj. L. D. Clay is the secretary and as yet the only person visible.

### Ickes and the Airplane Spruce

the state of Washington set aside as a new national park, in which logging would be prohibited. The Defense Commission needs spruce for airplanes, which is a principal product of the areas affected. Apt to reach congress.

SECRETARY of the Interior Ickes and his National Park Service seems heading toward a collision with the Defense Commission. The N.P.S. is trying to have huge forest areas in

### House Cleaning in Commerce

high-note theorists who came in under Hopkins by the oldtime career men who really know what it is all about. It will be recalled that Jones is a business man himself.

MUTED outcries are being heard in the vicinity of the lofty stone barn occupied by the Department of Commerce. Jesse H. Jones, now in command, seems to be replacing the

### Ululations of Secret Service

the S.S.—all provided by law—but the non-bodyguard Secret Service men call the guards the "diaper detail." Heartburnings and recriminations result.

NOT all the men of the Secret Service are filled with that "joy of service" of which President Roosevelt has often spoken. Each of the Roosevelt children rates bodyguards from

### Getting Down to Hard Pan Now

that have been bothering them. There may be a change in the Commission. Before this gets into print, Donald Nelson may be formally named as coordinator with power to act. The spending may be tapered down where that can be done without impairing the actual program for defense needs. Too many important people have been trying to load the program with distantly related projects and too many have succeeded. Still relying on gossip, the Commissioners are said to be developing a disposition to get tough. No complaint registered against industry or labor, although occasional misunderstandings. No thought of application of priorities at present, but they can be clamped down if and when needed.

GOSSIP is that the Defense Commission has passed through its formative, promotional, plan-making stage and that its members will insist on getting rid of the bottlenecks

### Just a Guess at Twilight

output has reached a new high. The utility people say they can increase that output almost indefinitely by merely adding equipment to existing plants at a relatively low cost and that more juice can be made for a dollar by steam than by water. Some congressmen say leading members of the national legislature have set their jaws firmly against the St. Lawrence scheme. No power could be delivered for four years, it is hoped the war-need will be over by that time, and it would cost a billion which might be saved.

INFORMED persons doubt that anything will come of Mr. Roosevelt's effort to breathe life again into the St. Lawrence scheme. Secretary of Commerce Jones notes that power

*Herbert Corey*



**Which is EASIER TO READ?****OLD** 0 0 0 0 0 8 5 0 5 2 0**NEW** 8 5 0 5 2 0

00000850520 is the same number as 850520—but the latter is more easily and faster read, less likely to be incorrectly copied. Hence, the figure 0 no longer appears on Model M Comptometer answer dials, unless it is preceded by an integer (as in the number 850520).



## ***EASIER READ ANSWERS... FOR GREATER SPEED AND ACCURACY***

The newest improvement in the Model M Cushioned-Touch Comptometer adding-calculating machine eliminates all ciphers in the register dial to the left of the answer.

This improvement makes possible even greater speed and less likelihood of error in reading answers. Eye travel is limited to the length of the answer, instead of extended the width of the machine. This means less eye-strain and nerve-strain on operators, hence increased efficiency.

With Comptometer's exclusive Controlled-Key safeguard (which eliminates operating errors due to imperfect key manipulation), it acts to set a new high standard for first-time accuracy.

In short, it means even greater "Comptometer Economy": *More figure work handled in less time at lower cost.*

Your local Comptometer representative is prepared to show you (in your own office, on your own work) how this *improved* Comptometer can substantially reduce your figure-work costs. Telephone him—or, if you prefer, write direct to Felt & Tarrant Mfg. Co., 1712 N. Paulina St., Chicago, Ill.

# **COMPTOMETER**

REG. U. S. PAT. OFF.
**ADDING-CALCULATING MACHINES**



# Leaders in the March of Business



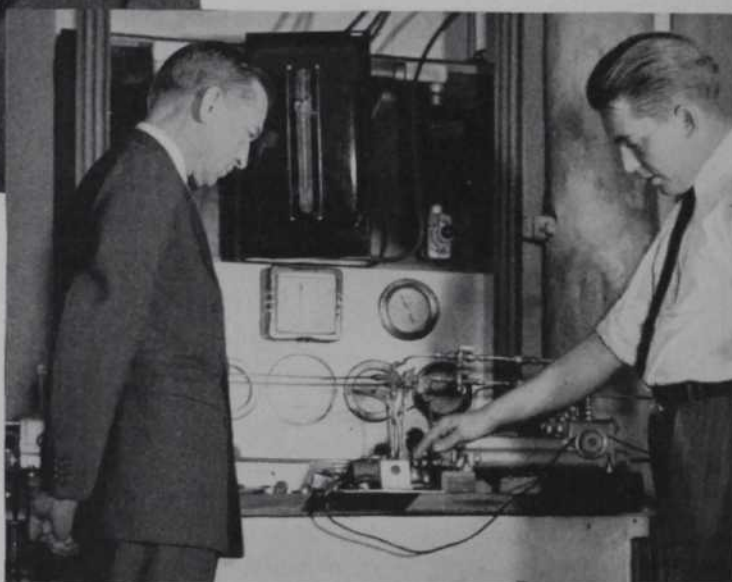
Dr. O. E. Buckley (left) with Dr. Frank B. Jewett



Chris Steenstrup



R. E. Gillmor  
(left) inspecting  
instruments



**C**HRIS STEENSTRUP, whose picture hangs on the wall of nearly every General Electric distributor, was honored by 15th Anniversary celebration of his application of the hermetic sealing principle to electric refrigeration. An immigrant from Denmark when 20 years old, his first job was that of a ditch digger in Bridgeport, Conn. After joining General Electric in 1901, the management quickly discovered his inventive genius and made him foreman of a department devoted to experimental work and designing of special machines. In addition to his improvement of refrigeration mechanism, he has played a leading part in the company's development of munitions, turbines and their own specialized machinery.

DR. OLIVER E. BUCKLEY is successor to Dr. Frank B. Jewett as president of the Bell Telephone Laboratories. He entered the Bell system in 1914 as a research physicist after academic training at Grinnell and Cornell. Notable among his achievements were discoveries that greatly increased the capacity of submarine telegraph cables.

R. E. GILLMOR, president of the Sperry Gyroscope Co., Inc., of Brooklyn, manufacturers of marine, aviation and fire-control instruments, reported that his company's production for military services is now proceeding at a rate ten times greater than three years ago and that personnel had been expanded from 800 to 5,000.

H. C. TURNER, president of the Turner Construction Company, builders of the new \$1,000,000, seven-story Tiffany building on Fifth Avenue in New York City. Mr. Turner's company is now working on or has just completed large projects for the New England Life Ins. Co. in Boston; Continental American Ins. Co. in Wilmington; Pratt & Whitney Aircraft Co. in Hartford; International Business Machines Corp. in Endicott, N. Y. and the Aluminum Co. of America at Edgewater, N. J.

HARRY M. DENT, president of Durez Plastics and Chemicals, opened the company's new \$2,000,000 plant in North Tonawanda, N. Y., last month. Mr. Dent pioneered in mass production of plastics in 1921 when the production of synthetic resins was only 2,000,000 pounds—last year production was more than 200,000,000 pounds.

H. C. Turner



Harry M. Dent



# GET MORE WORK

*from machine tools you already have*

## • and get it NOW . . . by equipping with REEVES Variable Speed Control

Your old machine tools can be brought up-to-date—given new life and versatility, made to turn out more work than you ever thought possible—simply by equipping them with REEVES Variable Speed Drives.

With a REEVES drive, the operator can always run his machine at the most efficient speed for each job and each changing condition. He can speed up or slow down, exactly as required for each cut or drill, for various depths of draw and for different production schedules. This *complete* flexibility is not possible with step cones, gear boxes, slip clutches, variable speed motors or other devices.

REEVES Variable Speed drives save on set-up time because speed changes are made without stopping to shift belts and change pulleys. Ease of control (hand-wheel or push button) encourages operators to change speeds when required.

There's no need to lose productive time while waiting for new machine tools to be delivered. No need to lose profitable contracts on account of restricted output. Find out how quickly, easily and inexpensively REEVES Variable Speed Transmissions, Motodrives or Motor Pulleys can be installed on the machines you already have—and how these units will improve your production. Use coupon below for free book of examples, or better yet, write, wire or 'phone for a REEVES engineer to call. *You'll get immediate action!*

REEVES PULLEY COMPANY, Columbus, Indiana

## EXAMPLES

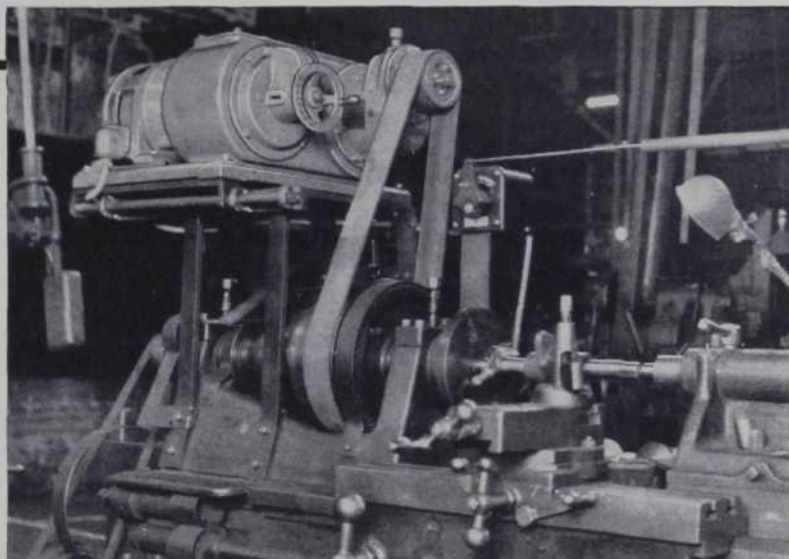
• In a mid-western plant, production increases ranging from 28% to 55% were secured on a battery of punch presses—and high quality of product maintained—by speeding up the presses through REEVES Motodrives.

• A large machine shop in Cleveland says, "We bought two REEVES Transmissions, one for a boring mill and one for a radial drill. Right from the start both machines began turning out more production. In the case of the boring mill, we estimate efficiency is increased at least 25%."

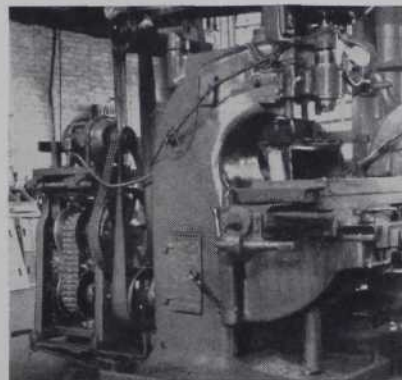
• A Cincinnati company, equipped a three-way valve facing machine with a REEVES, increasing production from 50 to 80 valves per day, with no increase in labor cost.

• At a metal working plant in Indianapolis, a REEVES Transmission, installed to give complete speed flexibility in operating a multiple drill press, doubled the production of this press and widened work range.

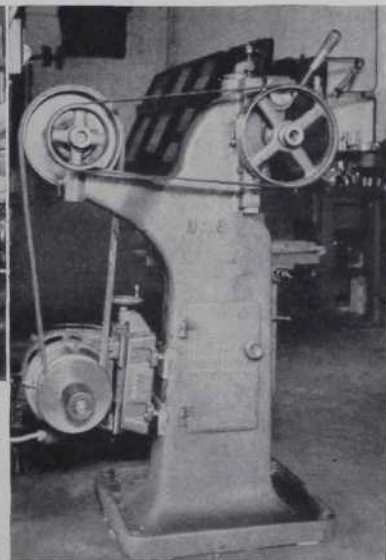
(Many other examples given in new Bulletin offered at right.)



▶ Above—REEVES Motodrive installed on lathe. This popular drive combines in one compact, self-contained enclosure—constant speed motor, speed-varying mechanism, and reduction gears (where required). Available in space-saving horizontal and vertical designs— $\frac{1}{4}$  to 10 h.p. Speed ratios 2:1 to 6:1 inclusive.



▶ Above—REEVES Variable Speed Transmission driving milling machine. Transmission provides infinite speed adjustability over wide range. Accurate and positive at all speeds. Modern, compact open and enclosed designs; vertical and horizontal— $\frac{1}{4}$  to 78 h.p. Speed ratios 2:1 to 16:1 inclusive.



▶ Right—REEVES Vari-Speed Motor Pulley on gear lapper. Simplified development of Transmission. Mounts on standard shaft of any constant speed motor. Forms direct drive to machine. Sliding motor base is moved forward or back for speed changes. Ten sizes— $\frac{1}{4}$  to 15 h.p. 3:1 speed range.

# REEVES

## SPEED CONTROL

REEVES PULLEY CO., Dept. N., Columbus, Indiana

Send copy of new Bulletin on how to get more production from machine tools through variable speed control.

Name.....

Company.....

Address.....





# No Obsolescence in Individual Skill



**A**LMOST 50 YEARS ago the proprietor of a small blacksmith shop with two forges in Watertown, Wis., went into the business of manufacturing fine cutlery and garden tools for local consumption.

Today the trade-mark, "The Village Blacksmith Folks," is famous throughout the world, but the half-hundred employees, most of whom have grown old in service or have followed their fathers on the pay roll, are still village blacksmith folks.

Their manufacturing processes seem unbelievably simple—forging, grinding to shape, heat treatment, more grinding and polishing. Each man is an expert in his own right and although their methods are old-fashioned, their products, distinguished by the original hammer marks of their hand construction, are found in high grade hardware stores throughout the country.

Their equipment is still similar to that found in blacksmith shops when people depended upon the village horseshoer to look after all kinds of metal work.

For example, the upper right hand photograph shows two workmen on springboard seats at two of the firm's eight grindstones.

Cutting edges for various kinds of tools are ground on these stones and tested several times before they receive the final examination by Fred Schuett, who discards any blade that will not bend almost double.

All tools are imprinted by Superintendent I. Gottschalk who has spent 25 years with the company and takes personal responsibility for every detail of the plant's operation.

Rugged individualists, every worker and boss among them! They have gone back to the old master-craftsman idea of hand production and successfully capitalized on the idea.

—LYMAN ANSON



Steel is clamped to wood forms for convenient holding and knife blades are hollow ground

PHOTOS BY LEWIS STAFFORD

Knife blades are bent almost double—rejected if they snap

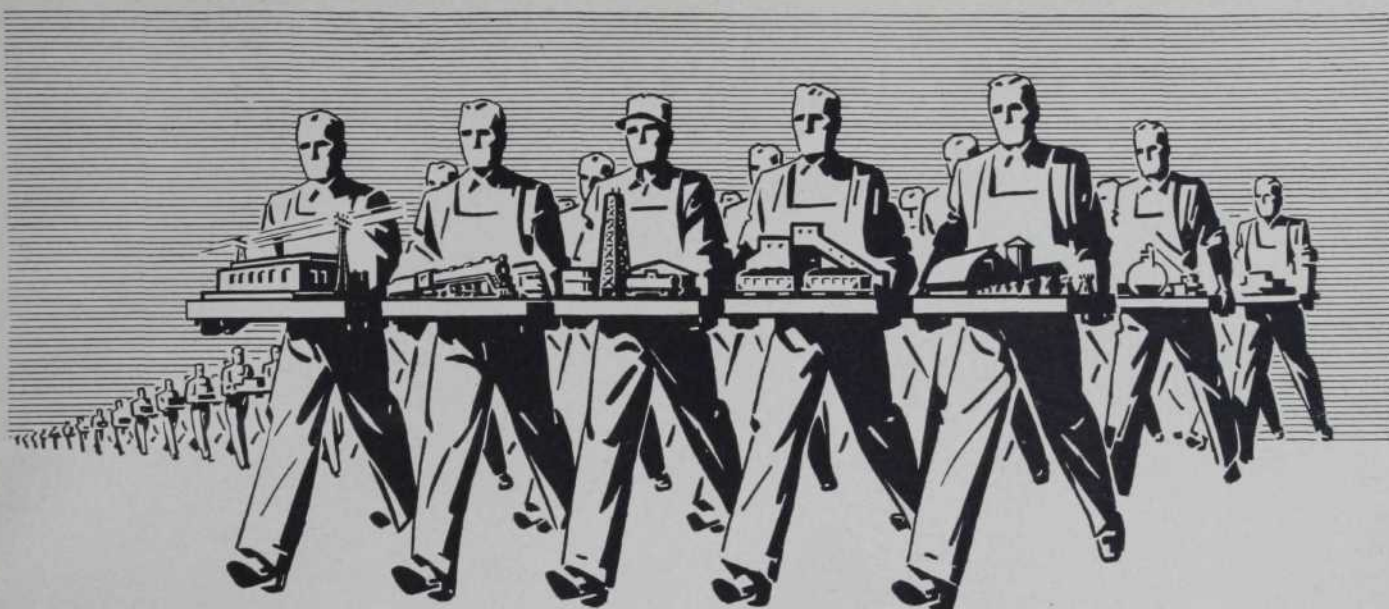


A piece of flat steel is whipped from forge and hammered into shape of a sickle



Cleaver is tested by striking against a cast iron block—if blade curls or chips it is thrown out





## THE MINUTE YOU LOCATE IN ILLINOIS These Profit Producers Go to Work for You

**L**IKE an army of unseen workmen, the outstanding industrial advantages of Illinois work day and night, year in and year out, to add to the prosperity of manufacturers who are located in Illinois. It is this exceptional combination of production, distribution, and marketing advantages which make Illinois the logical location for new plants and branch plants in so many industries. Check these advantages which you will gain by locating in Illinois:

**FINE LABOR SUPPLY**—Intelligent, skilled, and cooperative labor serves Illinois industry. **RAW MATERIALS**—Agricultural, mineral, and other vital materials for industry are available. **MARKETS**—Direct connections with National markets and overnight shipping service to the entire Middle West market. **TRANSPORTATION**—Direct rail, highway, water, and air transportation to every part of the Nation and to Central and South America. **FUEL**—Illinois is the third producing State in both oil and bituminous coal. **WATER**—Abundant water, supplied by eight great drainage basins. **POWER**—Facilities ample for today's needs and geared to tomorrow's requirements. **EQUIPMENT**—The second largest metal-working State, assuring adequate supplies of machines, parts, and tools. **PLANT SITES**—Ample room for new plants and expansion in every section of the State. **TAXES**—Illinois has NO State Income Tax, NO State Real Estate Tax, NO State Machinery Tax.

### Special Confidential Report to Executives

Write the Illinois Development Council, at Springfield, for full data on the Industrial Advantages of Illinois. Please describe the nature of your business and list any special or unusual requirements in labor, raw materials, plant facilities, or any other production or distribution factor, in order that a truly practical and informative report may be submitted for your consideration. Your inquiry will, of course, be kept confidential. Write—

**ILLINOIS DEVELOPMENT COUNCIL • STATE HOUSE • SPRINGFIELD, ILLINOIS**

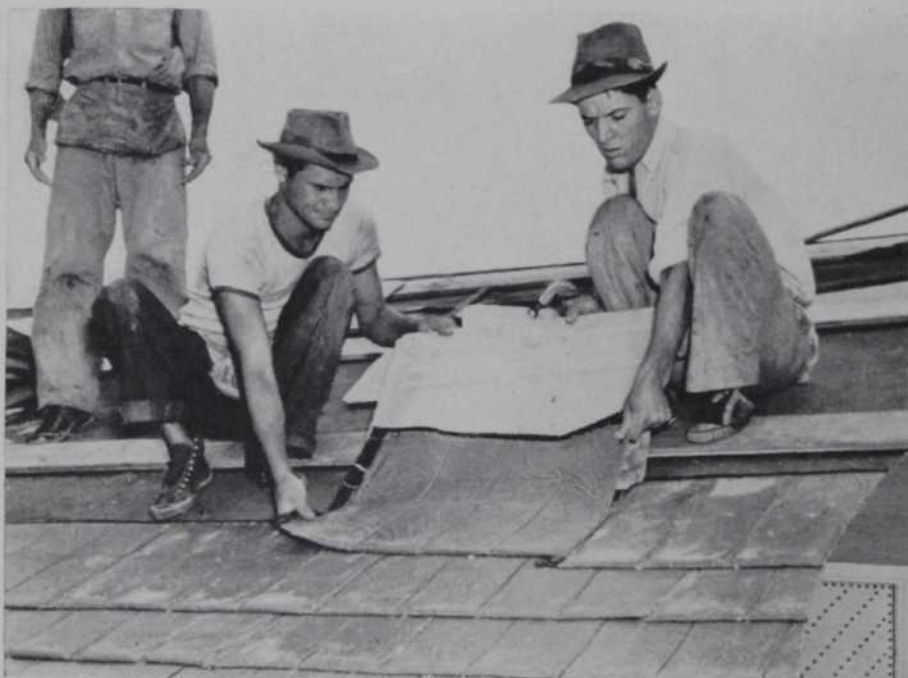
# ILLINOIS

**THE STATE OF BALANCED ADVANTAGES**



# King Cotton Enters The Building Trade

By GENE HOLCOMB



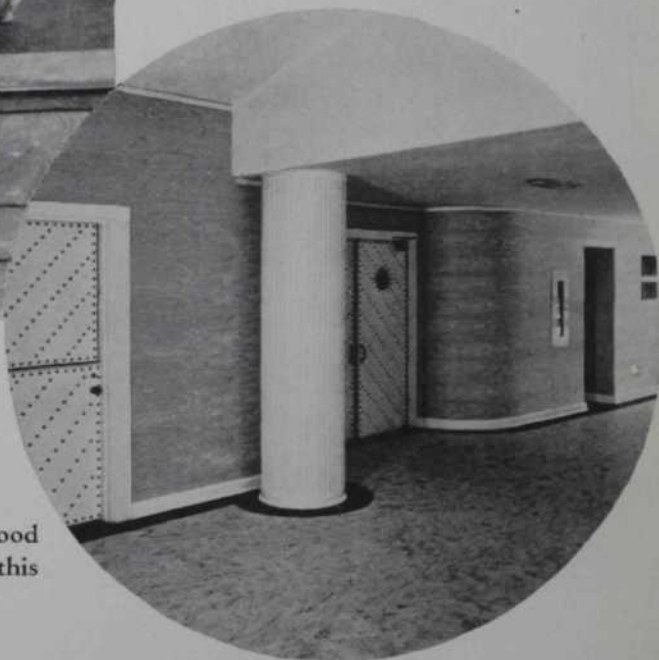
A form of four cotton-cement shingles are put in place while still flexible. They harden later

**L**IKE THE cotton farmers' weather signs, the belief that industry can use a greatly increased amount of cotton without using less of something else may smack more of wishful thinking than of logic. But also, like many of the cotton farmers' weather signs, it is coming to be miraculously true.

In the construction trades, traditionally the market for heavy materials, cotton is proving itself of such importance that one wonders why the new adaptations have not been in use for many years. Yet the value here is not primarily that of a low-cost substitute for accepted materials, but cotton's ability to make more satisfactory and more durable the materials long in use.

A classic example of this "improving without replacing" is a new cotton-cement roof shingle developed by J. Harris Hardy, a Mississippi cotton planter who had more cotton than he knew

Cotton backed Flexwood fits the curves of this high school foyer



what to do with but not the immediate cash necessary for reroofing his 100-year-old home in Lowndes County. The shingle he invented is revolutionary in many ways; but in one way it is a retroversion. It uses more cement, more sand, and more paper than most other types of cement-based roofings. In application it requires more black felt as a base and more labor.

Hardy's cotton-cement shingles are manufactured on the building site. Then the shingles are applied "green," within ten or 15 minutes after making, and are permitted to "cure" while the building is being completed.

The wet shingles are laid so closely together and so snugly against the sheathing that they retain a 100 per cent bearing surface, making the roof almost indestructible. Not only do the nails, driven into the wet mixture, bond with the cement; but, during the curing period, the shingles also bond one with the other. A wind virtually would have to blow the house away to harm the roof.

Hardy's patents, in essence, control a method for curing thin concrete slabs. One ingredient which makes the cure possible is cotton fabric embedded in the shingle's heart. The cotton, act-



Match flames do not set fire to this cotton insulation made fire-resistant by a chemical bath

ELWOOD R. PAYNE



*"Unforeseen events . . . need not change and shape the course of man's affairs"*



## THE SMITHS ARE OUT . . . PLENTY!

The Smiths stepped out for an evening of excitement . . . and found it at home! A forced door, a buffet emptied of its silver, rifled wardrobes—all told the story. Another costly burglary.

A burglar's prospect list is as long as the city directory. *Your* address may be on one. Locks will not prevent the burglary, but insurance protects you against the resulting loss.

Right now is a particularly good time to invest in burglary insurance . . . for the protection which

The Maryland offers has been greatly broadened, without a corresponding increase in cost. The property of guests is now protected by your policy. And coverage has also been extended to garages, store rooms and outbuildings.

A few minutes' talk with a Maryland Casualty agent or broker will clearly demonstrate to you the completeness of the protection which is now available for *your* home, store, factory or office. Maryland Casualty Company, Baltimore.

## THE MARYLAND

*The Maryland writes more than 60 forms of Casualty Insurance and Surety Bonds. Over 10,000 Maryland Casualty agents and brokers can help you obtain protection against unforeseen events in business, industry and the home.*



ing as an aggregate, reenforces and holds the cement together. Multitudinous fibers absorb the water of the mix so thoroughly that but a small portion of the moisture reaches the surface during the curing period. Consequently, the shingles neither dry out nor expand so greatly that they crack.

The Portland Cement Association gave a number of the shingles accelerated weather tests equal to 100 years of service and found them as good at the end of that time as when the tests started. An additional feature is that the shingles may be made in any color or combination of colors desired, and the surface texture may be modified to resemble any type of roof from slate to thatch.

People who should know expect public acceptance to be immediate. If their

try. Some use cotton-treated materials throughout; others have cotton-treated exterior or interior walls, ceilings, or roofs. The material remains securely in place, does not wrinkle or tear, and, being rain-and-temperature-proof, is unaffected by weather extremes.

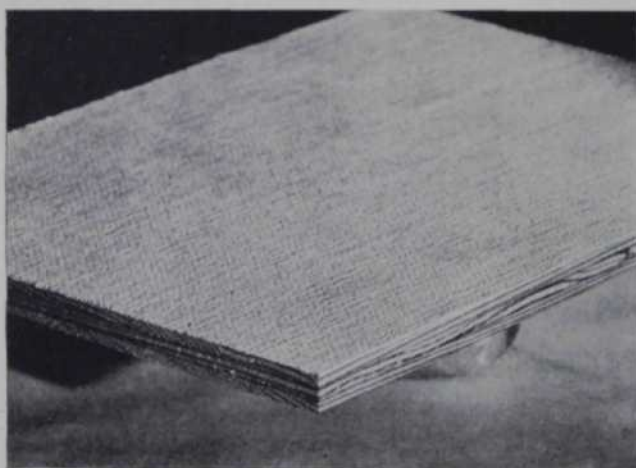
Fire-resistant cotton duck suitable for building purposes is manufactured in weights ranging from number two to number ten, and in widths appropriate to the particular design of the house on which it is being fitted. Almost anyone handy with tools can put it on. After the backing surface chosen for the exterior walls (either tongue and groove sheathing or plywood) has been smoothly dressed, it is spread with a fine coat of lead and linseed oil paint. Next, a thin layer of bedding cement—one gallon to 150 square feet

even a year. Any house paint with a lead and oil base may be used, but the best results are obtained with paint having affinity for the fire-resistant compounds within the fabric itself. If the builder does not wish to paint, he can obtain ready-dyed duck in black, brown, green, orange, khaki, dark gray, olive drab, aluminum, and terra cotta shades.

### Decorative possibilities

IN the ease of its application to interior walls and ceilings, cotton fabric may be compared with wall paper. It can be placed directly over studs and joists, or it can be applied with an adhesive to plaster, plasterboard, and other materials. Equally satisfying is the manner in which it lends itself to decorative requirements. New design effects with cotton materials, both inside and out, open up a world of possibilities.

Also on the market is a steel wire mesh lath with cotton fabric backing. This material is designed to make plaster walls and partitions possible in the lowest cost homes. The fabric holds securely in place the barest amount of



Cotton fabric forms the inside ply of this wall panel

ROGER DUDLEY

prediction is sound, then a government official's estimate that the shingle may absorb 1,000,000 bales of cotton a year does not seem excessive. The National Cotton Council of America, helping Mr. Hardy develop the shingle, has boosted its opinion of the product's prospects with each new test. Following the first commercial application of the roof at Jackson, Miss., in June, the Council concludes that the sky is the limit, especially if, as Mr. Hardy hopes, the process can be extended to floor and wall tiles and exterior sheathing.

### Cotton in many new uses

BUT cotton-cement roofing is only the latest of a series of spectacular uses found for cotton in the building trades. In the past five years cotton has proved itself valuable in so many ways that it is now possible to build entire houses from cotton-treated materials. In 1934, the New Uses Division of the United States Department of Agriculture built a demonstration "cotton house" at Northport, N. Y. The house had a coat of cotton duck over conventional wood sheathing. Today, several hundred cotton houses are scattered over the coun-



ROGER DUDLEY

The walls of this room are sheathed in Jumbo Speedwall, a cotton-faced plywood panel which is expected to play its part in moving any surplus in this crop

of surface—is applied to the dried paint.

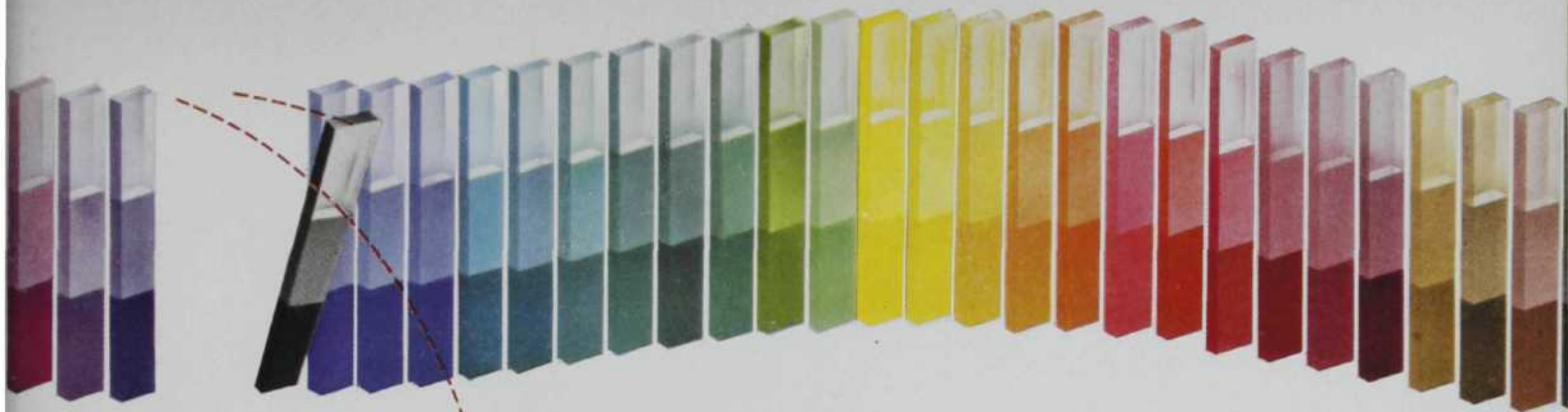
While the cement is still "tacky," the duck is laid on it in strips, with the exposed edges nailed in place. The succeeding strips are overlapped 1½ inches on strips previously laid.

Once the fabric is applied, there is no hurry to get it painted. The paint may be applied after six months or

plaster and also reduces labor costs.

With cotton fabric proving so successful, it was not to be expected that its application would be confined to "on-the-job" operations. Prefabricated material—interior and exterior walls, roofs, and ceilings—is receiving an increasing response. Lawrence Ottinger, president of the U. S. Plywood Corporation, has endorsed the use of cot-





Give your product;  
**Greater Saleability**  
*with the added serviceability  
of Colorful Bakelite Plastics*

WHETHER your products call for conservative tones of crystal, white, ivory and black, or any of the more brilliant hues of the spectrum, they will gain greater sales-appeal with the extra advantage of *serviceability* offered by Colorful Bakelite Plastics. With numerous types of these materials available—each possessing a different combination of properties, *durable* color-styling for countless items is assured.

The radio cabinet will retain its rich, gem-like luster despite frequent handling, as it is made from Bakelite Cast Resinoid.

Transparent shoes that are not only flexible, but resistant to wear, moisture, heat and cold, have now become possible with an elastic "Vinylite" sheet material.

Because the electric iron handle must withstand heat and also provide electrical insulation, it is molded from Bakelite Phenolic.

Face powder box and chewing gum dispenser require permanent ivory and white coloring combined with toughness and light weight. That is why they are formed from sturdy, color-fast Bakelite Urea.

Chemical-resistant Bakelite Polystyrene provides an unusual closure for the perfume bottle, combining a high degree of transparency with extreme fidelity of design detail.

You will readily see how these serviceable Bakelite Plastics can be profitably adapted to *your* color-styling requirements by writing for illustrated booklet 25P, "New Paths to Profits".

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Unit of Union Carbide and Carbon Corporation



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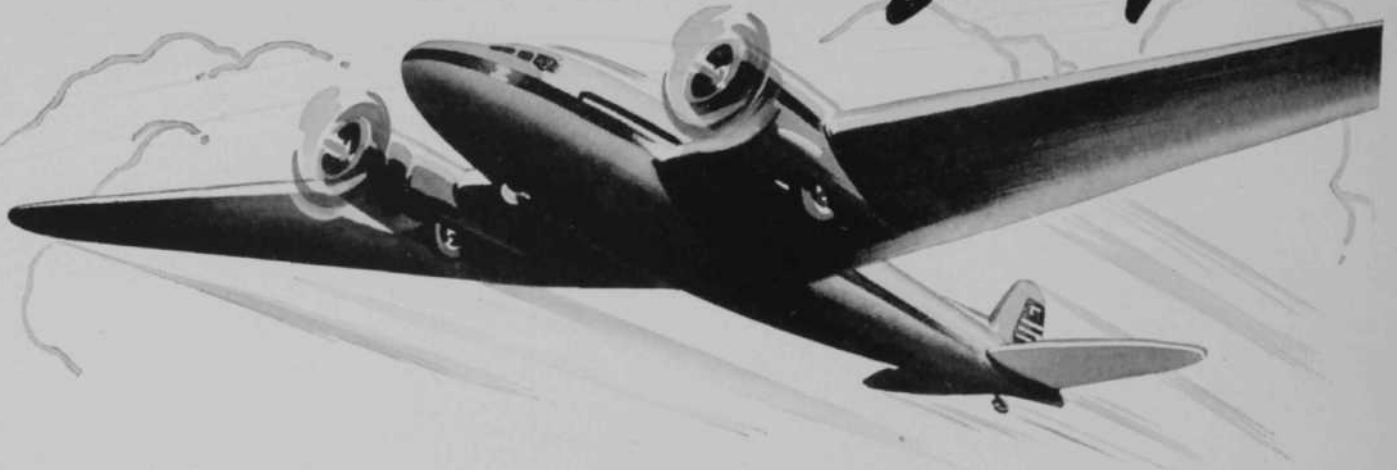
**BAKELITE**

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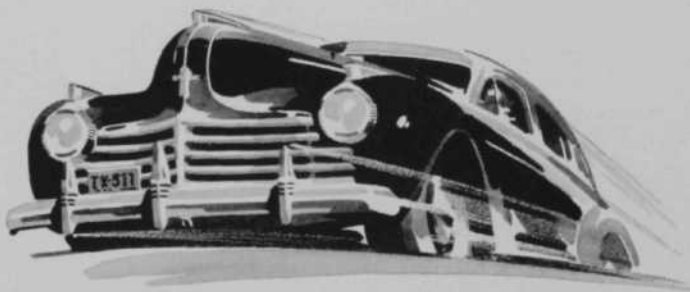
PLASTICS HEADQUARTERS



# Feels like Flying!



## The 1941 Chrysler with Spitfire Engine and Fluid Drive!



**L**IKE FLYING on a perfect day... that's how it feels to ride in a *Fluid Drive* Chrysler. It's a smooth, swift glide... a powerful, shockless take-off... a steady, mounting getaway that's not achieved by conventional cars.

Mighty Spitfire engines... with multiple-jet carburetors having separate jets for different speeds and needs. A separate Spitfire jet for a Niagara of power when you step on it.

*Fluid Drive* transmits all this power through a column of oil, instead of rigid connections. One fan-like wheel drives another by forcing oil against it... and you control everything with the throttle.

### LIKE THE AIRPLANE'S VARIABLE-PITCH PROPELLER

The whole thing is as simple as A B C... like the airplane's variable-pitch propeller. The airplane pilot can change the pitch of his propeller for taking off... for climbing... for cruising. And he can cruise on a fraction of his horsepower. *Fluid Drive* with Vacamatic transmission does the equivalent of all these things automatically.

*Fluid Driving* can't be described... it must be experienced.

Come in and drive the new Chrysler yourself... and learn about dozens of other fine features that only Chrysler can give you.

★ Tune in on Major Bowes, CBS, Thursdays, 9 to 10 P. M., E. S. T.



**SPITFIRE  
ENGINES**

FOR  
TREMENDOUS POWER  
AT LOW COST!

**BE MODERN  
WITH FLUID DRIVE**

**Buy Chrysler**



ton fabric facing on plywood. Synthetic resins bind the fabric to the plywood as closely as if it were another ply.

It is Ottinger's company which has brought out "Flexwood," a sheet of thin veneer laminated to cotton cloth so pliable that it can be wrapped around almost any building form. Flexwood obviously has great prospects as a decorative finishing material.

Unusual combination

ANOTHER U. S. Plywood Corporation product with remarkable properties is "Robertson Bonded Metal." This is a cotton cloth fused into steel with a zinc solder and then bonded with phenolic-resin sheets to thin wood veneer. The result is a sandwich which looks and feels like wood, but which can be handled and machined like steel: drilled, punched, stamped, mildly drawn, or even spot-welded. It is almost as fire-resistant as steel. In November, 1939, Ottinger signed a contract to finish the walls and ceiling of the lobby in the final Rockefeller Center building with Robertson Bonded Metal.

The Speedwall Company of Seattle claims its "Jumbo" cotton-covered interior paneling to be better in 23 ways. Certainly the fabric-faced plywood board, cut to size at the factory, is one of 1940's major contributions to the house of today and tomorrow.

The low thermal conductivity of cotton has made it valuable as a low-cost insulating material in the construction of both dwellings and office buildings. J. H. McDonald, Texas Commissioner of Agriculture, maintains that cotton insulation "has more merits from the standpoint of consumption than all of the new uses that have come to light in recent years." Oscar Johnston, President of the National Cotton Council and manager of America's largest cotton plantation, recently insulated his Mississippi Delta home with cotton. Manufactured in the form of

quilting and composed of mixed cotton linters and low-grade cotton lint, the insulating material is the culmination of efforts to fire-proof cotton fiber. Not only does it afford protection against temperature extremes but, when used in floors, walls, and ceilings, it serves the additional purpose of sound-proofing. The quilting is fire-resistant and may be obtained in rolls from 40 to 60 yards in length, and in widths up to 90 inches. Thickness is determined only by the price the purchaser wishes to pay.

Each year the American people pay for the construction of thousands of miles of concrete-surfaced roads. Within the same short period other thousands of miles of such roads must be repaired. The immensity of these figures suggests the importance of a material that lowers construction costs and at the same time eliminates much of the necessity for future repairs.

Cotton mats, developed by the U. S. Bureau of Public Roads and the Texas State Highway Department are now being used as an important part of concrete road building. Gibb Gilchrist, former Dean of the School of Engineering of Texas A. & M., finds them to be "the most economical method known and the least damaging to a road section."

Contractors on Mississippi's \$90,000,000 priority system of highways used them extensively, curing the con-

crete slabs satisfactorily in record time.

The principal advantages claimed for the cotton curing mats include water absorption capacity, temperature protection, and durability. The mat's ability to retain moisture makes one wetting a day sufficient for the curing process. This, of course, reduces labor costs and means economy where water is costly to obtain. In the curing process, the mats materially lessen the effects of varying air temperatures on the curing concrete. This is important. It is also important that the mats offer not only considerable protection against the concrete's freezing, but also can be used to prevent freezing of the ground before the concrete is poured. Thus, taken all in all, the mats protect freshly poured concrete from both the frost and the sun.

The mats used for curing concrete are quilt-like strips filled with bats of cotton, the latter weighing 12 ounces per square yard and made from either low-grade cotton lint or waste cotton. The covering material is seven-ounce, 40-inch cotton osnaburg. A flap six inches wide is made along one side of each mat by sewing together the covering material without filling. Including the six-inch flap, the mats are approximately six feet three inches wide. They may be used as many as 100 times and are placed on the pavement surface as soon as possible after it is finished.

(Continued on page 71)



Workmen pull a cotton curing mat into place to protect a new highway

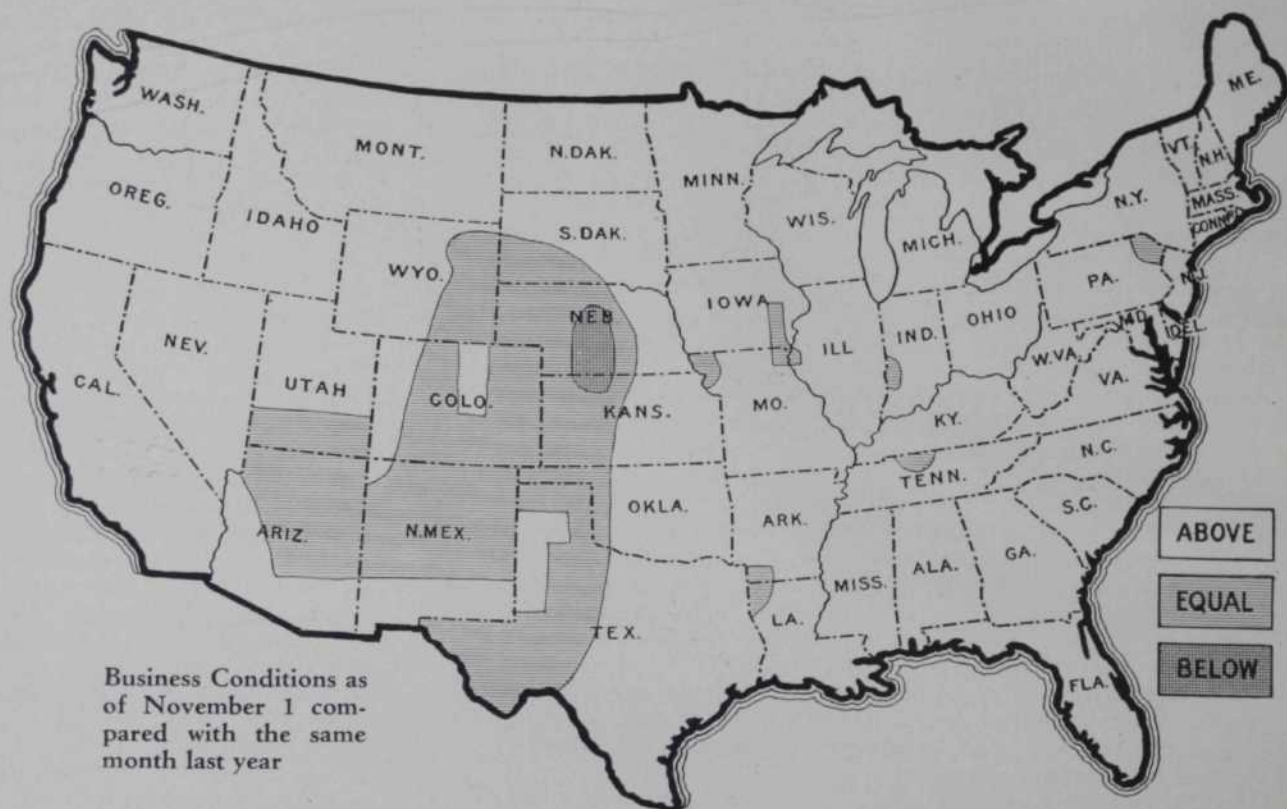


Cotton forms both the side walls and roof of this garage



# The Map of the Nation's Business

By FRANK GREENE

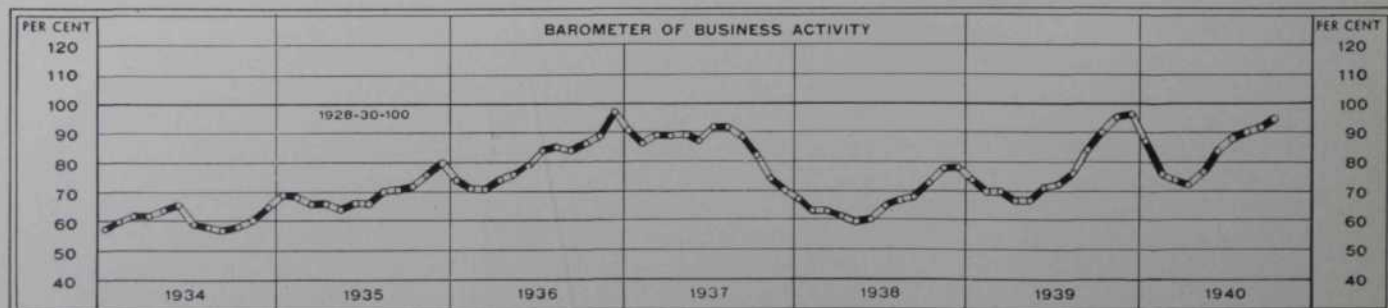


OCTOBER saw record production in many industries with sales exceeding output in war-affected lines. The steel rate reached 96 per cent of capacity, representing an all-time high output, considering increased plant capacity. Both sales and production of automobiles for the month were of record proportions. Output of electricity again exceeded previous peaks, but carloadings were off slightly from last year due to lower coal shipments.

Security prices were irregularly higher during the month despite dull trading, while new security issues increased and business loans advanced sharply. Engineering construction awards rose to record volume with both public and private gains recorded.

Food price advances featured rising commodity markets. Non-ferrous metals continued in active demand with copper shipments large. Increased employment, improved farm income and an extra working day in the month helped to lift retail sales above last October. Bank debits were ten per cent higher than a year ago.

While retail sales were retarded in some sections by mild weather, trade and industry generally were maintained at high levels.



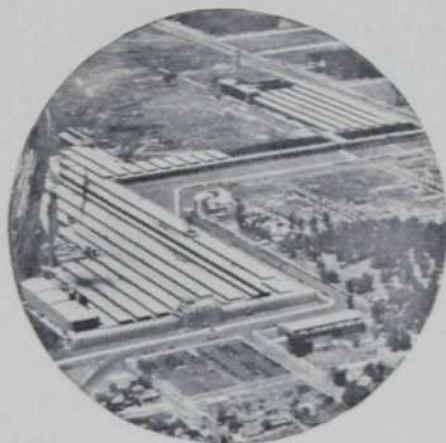
Continued expansion in industrial output, mainly in connection with the defense program, is reflected in a further uptrend in the Barometer, which has risen steadily since May.



BENDIX ★ ECLIPSE ★ PIONEER ★ SCINTILLA ★ STROMBERG ★ ZENITH



A Bendix tool-maker, Franz A. Nyberg, machining a special landing-gear brake-shoe—a precision job that means "happy landings" for America's airmen.



South Bend, Indiana  
One of the 14 great Bendix Plants

★ ★ ★

*Helping America  
Prepare!*

...for this we are proud to serve!

THE determined will of free America to become invulnerable has made itself felt. Our country is being prepared. And this is possible because such organizations as Bendix have made themselves, and kept themselves, ready.

★ ★ ★

In sincere thankfulness, more than fifteen thousand Bendix employees and the Bendix management are proud to be able to say: "We are at work upon our vital part in advancing American preparedness! Whether we work at drill-press, or desk or drafting-board, we serve the nation effectively, loyally, as all Americans will."

Yes! Bendix is working "full-blast" . . . to produce NOW, and in ever-increasing quantities, aircraft components of world-acknowledged excellence . . . Eclipse aircraft engine starters and generators, Pioneer aircraft instruments, Scintilla aircraft magnetos and spark plugs, Bendix landing-gears and Bendix aviation radio.

★ ★ ★

To supply matchless Stromberg aircraft injection carburetion, as well as Stromberg and Zenith carburetors and time-proved Bendix starter-drives, vehicle brakes and remote-control equipment for car, truck and tractor use; to furnish our

new navy and merchant-marine with Bendix-Cory marine equipment, with 100 years of fame behind it—to do all this without fumbling or untoward delays.

★ ★ ★

To all industry, Bendix offers a fund of manufacturing experience, a mine of service-proved data, a vast and reliable source of sustained large-scale production. Fourteen great Bendix companies and divisions form a vital part of America's unconquerable army of industry. Bendix serves by ably aiding our nation's program of preparedness while continuing to answer the needs of automotive and air commerce.

*Bendix*

AVIATION CORPORATION

Plants at: BENDIX, N. J. • SOUTH BEND, IND. • BROOKLYN • ELMIRA, N. Y.  
SIDNEY, N. Y. • BALTIMORE • NEW YORK • DETROIT • TROY, N. Y.  
PHILADELPHIA • WAYNE, MICH. • BURBANK, CAL. • WINDSOR, ONT.





**"Cyclone leads the field in sales...so their prices must be right"**

"If you think that Cyclone Fence is high priced because of its reputation for quality, you're wrong. Cyclone sells most of its output to business men. They want top quality, but they expect prices to be in line with competition. Cyclone could never make so many sales unless they gave a lot for the money.

"You'll be better satisfied if you'll get the facts about Cyclone before you buy. It won't cost you a cent to get a Cyclone recommendation and an estimate. Why don't you call or write them now?"



### Mail Coupon For FREE Book



Send for our free 32-page book. Tells all about fence. Full of illustrations. Shows 14 types — for home, school, playground, business. Whether you need a few feet of fence or 10 miles of it, you need this valuable book.

CYCLONE FENCE COMPANY  
Waukegan, Ill. DEPT. 5120  
Please mail me, without obligation, a copy of "Your Fence—How to Choose It—How to Use It."

Name.....

Address.....

City..... State.....

I am interested in fencing: ☐ Industrial; ☐ Estate; ☐ Playground; ☐ Residence; ☐ School.

Approximately.....feet

**CYCLONE FENCE COMPANY**  
Waukegan, Ill.

Branches in Principal Cities  
Standard Fence Company, Oakland, Calif.,  
Pacific Coast Division

United States Steel Export Company, New York



**CYCLONE FENCE**

**UNITED STATES STEEL**

## Stirrups as a War Barometer

ONE of the few implements of modern warfare which has not yet been mechanized or motorized is the wooden stirrup used on cavalry saddles. Since the world's supply of these stirrups comes from a single factory, the manager and president, J. L. King, does not depend on radio or press dispatches for rumors of wars. His orders forecast when conflicts are imminent anywhere. In the small town of Agency, Mo. (boasting almost 400 population in the late census), the factory known as the Ratcliff Mfg. Co. has been working for months at top speed to complete the largest order ever received—even exceeding the 180,000 pairs made for Uncle Sam in the late World War.

### National types of stirrups

WHEN a foreign order is to be kept secret, it is made through a broker in this country who pays cash for stirrups delivered at some seaport. Mr. King, therefore, cannot say definitely their destination—except that each nation rides its own stirrup and is particular as to size, style and price. But this present large order, to be shipped to Atlanta, Ga., is made up of stirrups that are uniform in size, made of durable oak and narrow, a type that fits well against a cavalry boot.

Months before Japan invaded China, Mr. King knew war plans were afoot—a sudden volume of business with the cases to be sent to California ports. But the real buyer was known at the factory only because the Japanese use a cheap stirrup which is sawed out of elm; and the Oriental isn't fussy about the width of tread although he insists on one odd specification—two inches of wood must project below the tread.

Neither was Mr. King surprised that Italy entered the present war as Mussolini has been his best European customer since the Armistice. Not only have gross orders been shipped to an Italian firm in Panama but, some 18 months ago, he received orders from this firm for large numbers of youths' stirrups, made to the same pattern as that used by the Italian cavalry but smaller. So Mr. King surmises that Mussolini has some young riders all saddled and booted.

Nor will it surprise Mr. King if Ethiopia makes a strike for freedom. He receives orders direct from them—they maintain many mounted troops, more than when the war with Italy was in progress. The Ethiopian cavalry have their own style, too, being the only cavalry to ride barefoot.

Not only nations have their own individual style of stirrup, but practically every class of riders wants a special model. To please all these customers, Mr. King has patterns for 510 styles of stirrups running in price from five cents to \$2 wholesale.

In recent years of peace the revival of horseback riding kept this factory going. Besides riding academy needs, the rodeo riders have all their stirrups made to order and, needless to say, rodeo stirrups are the strongest, most durable models made. Stirrups made for the late Tom Mix, Gene Autry and other famous Hollywood riders are heavily trimmed with precious metals.

The largest stirrups made are for the negro field hands in the South who usually ride mules and want extra wide stirrups. Theirs is called the "coal-hod" model and must be eight inches wide in the tread because a negro likes to rest his "dogs" when atop his mule and doesn't want a stirrup to crowd his feet. Furthermore, neither the mule nor his rider has any ambition to imitate the rodeo rider who wants a narrow stirrup so that if his animated mount should sunfish him toward the skies, he wouldn't drag because of a stirrup which holds.

Another customer demanding a large stirrup is a mounted policeman—it seems their feet run extra large, too. The smallest stirrups made, besides those for merry-go-rounds, are for the saddles used on the small horses in the Shetland Isles. Smaller sizes of each pattern are made for children, the best business in this line coming from South America where all children are taught to ride.

There is an unlimited supply of white ash, hickory, oak, hackberry, sycamore and elm in the nearby Platte, One Hundred and Two and Missouri River bottoms. For raw material, the factory depends on farmers to haul in the logs. These must be at least 18 inches thick. An average price for the past year was \$5 a cord for elm and \$15 for white ash which makes the best stirrup.

The logs are sawed at the factory, planed and cut into strips of various lengths. When seasoned, they are put into steam retorts, cooked until pliable and then clamped around forms and placed away to dry for six months. After the shaping they are ground, sanded and varnished; wooden plugs are placed across the top and finally, in the metal room, stainless steel, brass, galvanized iron—in fact, strips from every known metal are applied, the choice depending on price. Even chromium plating, the



pride of the motor industry, may be had on stirrups. The South American, who buys the most expensive type, insists on three narrow metal bands on each stirrup. Gauchos and cowboys want theirs nearly covered with some shiny metal.

Besides being president, Mr. King is one of the dozen share holders in the factory. He has been with the company 40 years, starting when 17.

Along his route to the top, Mr. King has worked at every bench in the shop, and aside from his career as skilled workman, he does the buying and also the book work. The only time he has to call in outside help is when orders arrive written in a foreign language. These are taken to the foreign-language department of the nearest high school.

### Begun as one-man concern

THE founder and first president of the company was W. H. Ratcliff who came to Agency in 1870, attracted by the fine timber, and made stirrups by hand. In the beginning his wife and children helped turn his machine and it was a big step forward when he bought a blind horse to take their place and tread a weary circle. But the horse got a change of work during the selling season. Then Mr. Ratcliff got together as many stirrups as he could carry on horseback, and started for Kansas City, some 40 miles away. About midway, he would stop at his old homeplace at Kearney and find out if his boyhood friends, the James boys, would be needing any stirrups. He made all of their stirrups.

The few other stirrup factories closed with the advent of the motor. But the one at Agency is not only right in the midst of suitable raw material, it is also but 20 miles from one of the largest saddle factories in the world (Wyeth Saddlery at St. Joseph, Mo.). The capacity is some 125 dozen stirrups a day. So, when not working on war orders, reserve stocks are built up. Mr. King is optimistic about his business and thinks there will always be need in every army for some cavalry; he doesn't think the motor will ever entirely replace polo teams, rodeos and general pleasure riding and he doesn't think the machine will replace the cowboy as long as cattle are herded. In many foreign countries, and in all hill countries, much business is still carried on by horseback.

Of the 20 workers, ten are skilled workmen who have been with the company for 25 years. Five have been there 35 years. There has been but one accident—during the World War, a country lad too young for service tried to run his machine and eat a candy bar at the same time. He cut off a finger.—HALLIE MCKEE BARROW

# It's in the BAG!



... **Proof** that the cost of business forms and promotional literature can be reduced! . . .

There is a simple explanation for the fact that Multigraph methods of office duplicating are effecting substantial savings and helping to build sales in every kind and size of business.

Multigraph provides not just one, but a wide range of methods to meet the diversified needs of business for duplicated words, lines and pictures.

Multigraph can do a greater variety of jobs than you may realize . . . it does real quality work . . . does it easily . . . makes big savings.

For proof of profit, call MULTIGRAPH SALES AGENCY (listed in principal city telephone books). If you prefer, write for information and samples. Address—

**ADDRESSOGRAPH-MULTIGRAPH CORPORATION**  
Cleveland, Ohio

**ADDRESSOGRAPH-MULTIGRAPH OF CANADA, LTD., TORONTO**  
Sales Agencies in Principal Cities

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## Multigraph and Multilith Duplicators





## Floors, too, go to sleep on the job

Read how smart business men  
are putting their floors to work



**Wide awake to sales** is this eye-appealing floor of Armstrong's Linoleum in Lester's Credit Jewelers, Corpus Christi, Texas. Its gay color and modern design invite trade and boost sales. Its comfort cushions footsteps. Its long wear and ease of cleaning keep maintenance at a minimum.



**Sales start underfoot** in this showroom of C. C. Coolbaugh & Son Company, Philadelphia, Pa. For there's an inviting Armstrong floor on the job to welcome customers and make them want to buy. Why not put an Armstrong floor on your sales force? Your local linoleum merchant will show you how little it costs.

**Floor showmanship** is provided in this San Francisco showroom of the Addressograph Company by another striking Armstrong floor. Whether you have a shop, office, showroom, or store, there is no better way to wake up sales than to install a trim, sales-attracting floor of Armstrong's Linoleum.



## ARMSTRONG'S LINOLEUM FLOORS

Custom Laid or  Standard Designs

**See for yourself** how other wide-awake merchants are attracting trade with Armstrong floors. Send for your copy of our color-illustrated book on better floors for better business. Sent free (40¢ outside U.S.A.). Write to Armstrong Cork Company, Floor Division, 4012 Coral Street, Lancaster, Pa. (Makers of cork products since 1860)

PLAIN • INLAID • EMBOSSED • JASPE • CORK TILE • ASPHALT TILE  
RUBBER TILE • ARMSTRONG'S LINOWALL and ARMSTRONG'S QUAKER RUGS

## Labor Relations of Small Companies

**SOUND** labor relation programs for the nation's industrial giants are taken for granted. But, when the need for similar programs by "little" business is mentioned, the executives sadly shake their heads.

"Nice idea," they say, "but not for us. We can't possibly afford it."

It happens that most of the workers in the United States are not employed by the mammoth organizations but by the multitude of little ones, those with 20, 100, or perhaps 500 men.

The satisfaction of these men with their jobs—or their dissatisfaction—does not reach the public press and so, in many cases, is ignored.

The need for harmony between capital and labor is at its highest point today as the country faces the gigantic problem of national defense.

### To maintain production

IN THE coming months and years, production must be maintained, unity and harmony must be achieved. The "little" companies have a vital role. A sound labor relations program is something they can't afford to ignore.

The Package Machinery Company in Springfield, Mass., is one of the nation's "little" businesses, employing about 350 workers.

The company started its employee program in 1917, four years after it was established. It has been adding to it ever since. It not only feels it can afford a labor relations program, but feels that it cannot afford to be without one.

"In a business such as ours, where steady progress is vital, the welfare and good will of each individual in the organization is extremely important," says Roe S. Clark, treasurer.

The program, the company found, has helped build profits, organization morale, and—a very important feature for concerns using specialized labor—reduced turnover.

In June, 1917, the Employees' Aid Association was formed. This association is managed wholly by the employees. The company is always ready to offer advice, when asked, but otherwise has no connection with its operation.

The Five-Year Club, open only to employees who have been with the company five years or more, was formed next. It is definitely social, but it promotes pride in the company and in service.

In 1926 the Compensation Warrant Plan was introduced. This is undoubtedly the most outstanding feature of



the entire program, both for the benefits accruing to the company and to the employees themselves.

The plan is simple. For each year of service every employee, regardless of position, receives a warrant that has the earning power of two shares of common stock as dividends are declared. In addition, the warrant carries with it \$100 in free life insurance to the employee.

At the end of the first year of the plan, employees received \$1,740. In 1931 they received \$18,611. The company has paid out \$132,000 in dividends to employees to date, and has in force about \$250,000 in life insurance.

"The plan has definite benefits for the company," Mr. Clark said. "Labor turnover is reduced to an absolute minimum."

"Profit-consciousness and a strong personal interest in the company's welfare are developed, since each worker realizes that warrant payments depend entirely upon the company's ability to make profits. Co-operative spirit and effort are stimulated. Employees watch constantly for waste, and experiment to find better work methods."

Then there are the Group Insurance and Wage Bonus Plans, in which every worker from president to office boy participates. The bonus is based upon annual earnings, as is the Vacation Plan, which includes two weeks off with pay.

The company employs a full-time nurse. When not occupied at the plant, she visits the homes of the workers, assisting sick wives and children.

### Steady work is sought

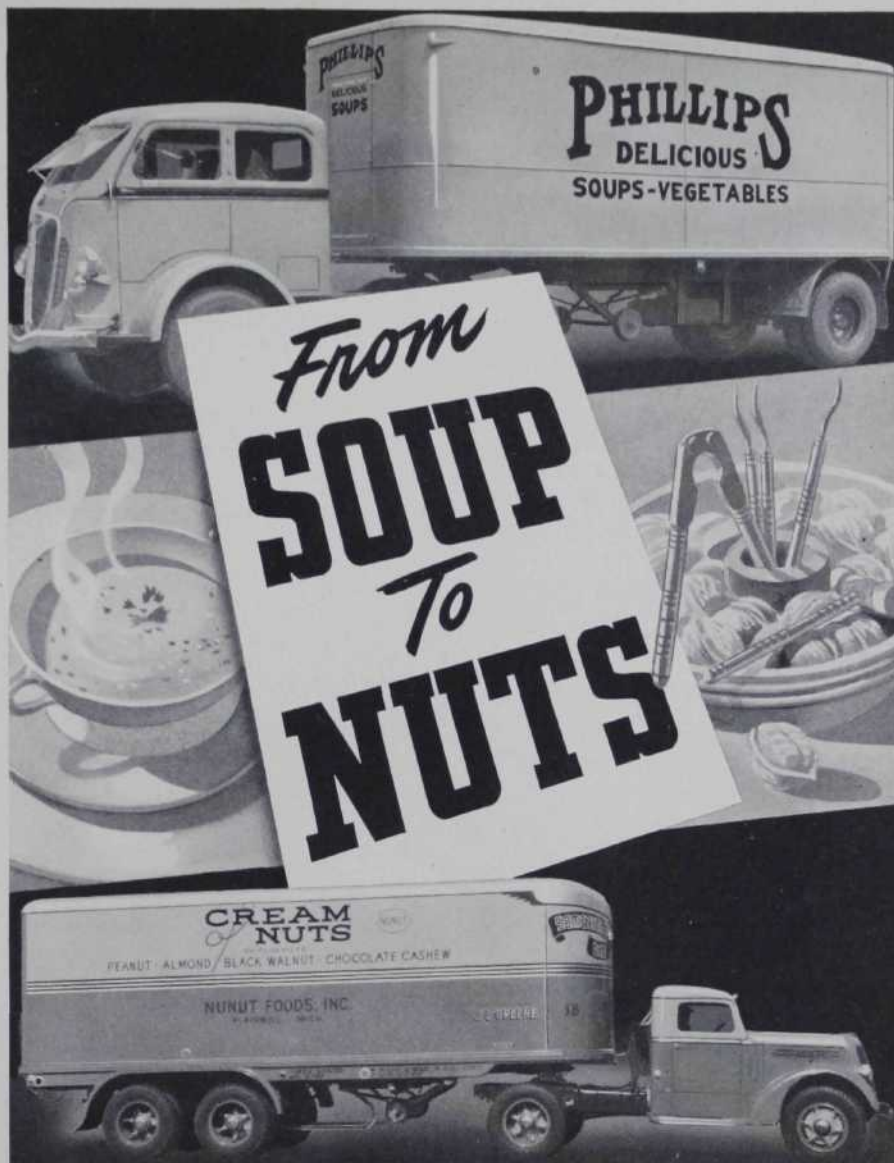
NOT a definite part of the program, but typical of the attitude behind it, is the belief that everything possible should be done to give steady employment.

Furthermore, length of service is recognized, particularly when high efficiency, precision, and quality work result from that service.

"Every step in the program has cost the company money. But we are so strongly convinced that it is money well spent, that we are continually looking for new ways to broaden our employee-relation program," Mr. Clark says.

Actually, all of these steps are practical for all "little" companies. From them, they can build programs to fit their own particular conditions.

If all the "little" companies in the United States will study their personal problem of labor relations, a significant and important step toward business harmony, increased production, and national defense will have been taken. —ARTHUR L. GREENE



From  
SOUP  
To  
NUTS

### Truck Operators in 100 Lines of Business use **FRUEHAUF TRAILERS**

Almost every kind of a commodity—from soup to nuts—is being hauled at lower cost with Truck-Trailers. That's because a truck can pull three times as much in a Trailer as it can carry by itself. And tripling the payload of a truck means cutting something like 40% from hauling costs.

#### A Truck-Trailer Operation Brings You These Advantages

● **Savings In First Cost**—A 1½-ton truck and Fruehauf Trailer cost at least 30% less than a 3-ton truck. Not only do you save on initial cost but your replacement cost will be less and your depreciation expense less for the smaller investment.

● **Savings On Operating And Upkeep Costs**—You'll save on gas by using the smaller truck—as much as 30%. And you'll save on maintenance costs—as much as 35%. Upkeep cost on the Fruehauf Trailer will be negligible since it will last ten years or more with little or no need for repairs.

● **Another Source Of Savings**—With one truck you can handle several Fruehauf Trailers. The load-carrying Trailer is quickly detachable from the truck, which enables you to simply leave one or more Trailers to be loaded or unloaded while the truck is kept almost constantly at work pulling first one and then another of the Trailers ready to be moved.

● **Easy To Get Around**—A Truck-Trailer is far easier to handle than a big load-carrying truck. That's because it is "hinged-in-the-middle", permitting the rear truck wheels to cut in on turns. In city traffic, in narrow alleys and cramped quarters, drivers find Truck-Trailers unusually flexible.

Write for booklet "Executive Thinking". It gives facts about the Truck-Trailer method of hauling.

World's Largest Builders of Truck-Trailers  
**FRUEHAUF TRAILER CO. • DETROIT**  
Sales and Service in Principal Cities

"The movement of goods by motor truck is the basic 'personalized' method of transport because it provides convenience, flexibility, speed and economy."



**FRUEHAUF TRAILERS**  
"Engineered Transportation"  
REG. U.S. PAT. OFF.



## TO THE EXECUTIVES OF COMPANIES WITH MORE THAN 20 EMPLOYEES

IN a very small company this problem seldom arises. But if your business or plant requires any number of people—say 20 or more, you must have given not a little thought to the question of employee loans. You know that most workers have at some time unusual expenses which they can't meet out of savings or current income. They must borrow or fall behind. And the employee worried by unpaid bills finds it hard to keep his mind on his job.

### Credit for wage workers

Students of social problems have long recognized the need of a legitimate source of credit for wage-workers—a place where small borrowers without bargaining power can obtain loans at reasonable cost and under state regulation.

### Terms the worker can meet

To supply this credit is the job of the modern family finance company like Household Finance. At Household Finance the responsible worker can borrow up to \$300 largely on character and earning ability. No endorser or bankable security is needed. No wage assignment is taken. In a simple, private transaction the worker obtains what he needs to meet the emergency.

Repayment of the loan is made in small monthly installments. Thus the borrower can get out of debt without sacrifice. Below are some typical loan plans. Charges are made at the rate of 2½% per month (less in many territories on larger loans). These charges are substantially below the maximum allowed by the Small Loan Laws of most states.

AMOUNT OF CASH LOAN	AMOUNT PAID BACK EACH MONTH Including All Charges				
	2 mos. loan	6 mos. loan	12 mos. loan	16 mos. loan	20 mos. loan
\$ 20	\$ 10.38	\$ 3.63	\$ 1.95		
50	25.94	9.08	4.87		
100	51.88	18.15	9.75	\$ 7.66	\$ 6.41
150	77.82	27.23	14.62	11.49	9.62
200	103.77	36.31	19.50	15.32	12.83
250	129.71	45.39	24.37	19.15	16.04
300	155.65	54.46	29.25	22.98	19.24

Above payments figured at 2½% per month and based on prompt payment are in effect in Maryland and several other states. Due to local conditions, rates elsewhere vary slightly.

To help borrowers—and others—avoid unnecessary debt Household teaches and encourages families to spend wisely and buy intelligently. Thousands have learned from Household's booklets on money management and better buymanship to stretch their incomes. Schools and colleges make constant use of this material.

Why don't you send the coupon for further information? You will incur no obligation.

## HOUSEHOLD FINANCE

*Corporation*

Headquarters: 919 N. Michigan Ave., Chicago  
One of America's leading family finance organizations, with 282 branches in 184 cities

HOUSEHOLD FINANCE CORPORATION, Dept. NB-L  
919 N. Michigan Ave., Chicago, Ill.

Please tell me more about your loan service for wage earners—without obligation.

Name .....

Address .....

City ..... State .....

# M E M O . . .

## for Busy Readers

1 • Truck drivers are safe 2 • Advertisements seek tax payments 3 • Natural rubber has competitors 4 • Governments have more workers 5 • Man power for defense

### Safe Drivers Win Awards

Inc., its drivers, its equipment, and the public. Company operates a fleet of 550 units throughout Michigan, makes annual awards to drivers whose records are accident free, gives swank dinner in observance of award occasion.

For the perfect performances contributed last year by 80 drivers, the company paid them \$8,000 in bonus allotments. Among the drivers was Al Radero, who became widely known a few years ago when he was "decorated" by a New York columnist and the mayor of Detroit. He drove the first truck from Mexico City to Washington, D. C., and from Ketchikan, Alaska, to New York City. His phenomenal record of driving 960,000 miles without an accident ended when a woman inadvertently walked in front of his truck and was injured. Radero was promptly exonerated.

### Tax Payments Spurred by Ads

while use and cost of advertising as a selling tool is hotly questioned by federal critics is edifying if not amusing. Stimulation of tax payments is ideal behind appropriations. Media included newspapers, radio, and poster panels. Greatly increased collections are reported by four representative units—State of Michigan, Ingham County in Michigan, the City of Detroit, and Greenburgh, N. Y.

Michigan's campaign began in 1935, when state legislature appropriated \$75,000 for a four-month program to educate taxpayers concerning a ten-year installment-payment plan for delinquent taxes. More than \$15,000,000 was collected, and taxes representing \$60,000,000 were placed on the ten-year plan. In 1936 Michigan appropriated \$15,000 to urge, through advertisements, payment of the second instalment under the ten-year plan. In 1937 an appropriation of \$25,000 was spent in directing attention to instalment payments due, and to inform taxpayers of changes in the act allowing instalment payments.

Ingham County spent \$5,000 several years ago in a special campaign to col-

BONUS incentive to safe driving has worked well for U. S. Truck Company,

lect \$3,000,000 in delinquent taxes. More than \$2,000,000 was either collected in cash or placed on the ten-year plan. Detroit has made similar tax collection campaigns.

Greenburgh used 4,500 lines of display advertising in local newspapers in March to stimulate tax collections, and reported that for April the collections amounted to 74 per cent of the levy compared with 69 per cent in April of 1939.

### Rubber Output Ruled by Time

TIME GAP between decision to produce synthetic rubber and actual start of operation in a 35,000 ton plant is estimated by Goodrich president, John L. Collyer, at 18 months. Five Goodrich considerations related to world's rubber situation, in brief:

A 35,000-ton-a-year plant, most efficient size of unit, would produce synthetic rubber at approximately 25 cents a pound.

With priorities of necessary materials and machinery, at least three years would be required to provide sufficient plant capacity to produce synthetic rubber needed to replace natural rubber in all tires manufactured in this country.

With annual world production capacity of natural rubber estimated at 1,600,000 tons and annual world consumption averaging 1,000,000 tons, current price of natural rubber (October), approximately 20 cents, is an artificial price maintained by international control agreement.

Because of the enormous and growing capacity of Far East plantations and artificial price of rubber, only "standby" plants could be justified from economic standpoint.

Competition should be a prime factor in the Government's plans to create essential standby facilities.

### APPROXIMATELY 4,500,000 Now in Public Jobs

4,500,000 persons in the United States are now employed in federal, state and local offices on an annual pay roll of \$6,000,000,000. About 1,200,000, or more than one-fourth, of these employees are in public education. More than one-half are in other non-military services.

At beginning of 1940, nearly 29 per





## How a Business Can Guarantee Its Owner a Retirement Income

**H**ERE'S what many a sole proprietor of a business faces: when he gets to the age when he wants to retire, his income from the business will cease or be materially reduced. Under such conditions, most men prefer to sell out and live on the money realized.

If general conditions as well as the state of his own business are good, he *may* be able to sell it for what it's worth. But most men know that they might not be able to realize more than twenty to fifty cents on the dollar.

### Current Earnings Build Future Income

To eliminate this uncertainty, many sole proprietors are setting aside, from current earnings of their business, an independent fund to assure them, upon retirement, a satisfactory income.

And to assure safety of principal, satisfactory return and maximum protection for themselves and their families, many men place these funds with The Northwestern Mutual under a retirement income plan.

Under such a procedure, when you reach age 65, you will not be dependent upon the proceeds of liquidating your business. Instead, the life insurance which your business has provided *for you* will begin to pay you a sat-

isfactory income—and will continue as long as you live.

Yet you will still hold title to your business and can give it to your children, sell it to outsiders, or terminate it as you see fit.

### Protection for Your Heirs

Should you die before age 65, your wife would receive the full insurance benefits—in cash or in monthly income for life, and your heirs would inherit the business itself.

And all this usually adds only a relatively few dollars to the operating costs of your business. In a business of modest size, the cost of this program will often be no more than half the salary of a clerk.

If you would like to find out more about this idea, talk to a Northwestern Mutual agent. He has aided many other business men in the conservation of business and estate values. He has significant facts and figures as to the flexibility and the low cost of Northwestern Mutual insurance plans for business proprietors.

## THE NORTHWESTERN MUTUAL

Life Insurance Company, Milwaukee, Wisconsin



# MAKING THE POINT THE HARD WAY!



MARY needs sharp pencils. But she doesn't need a machine shop to sharpen them.

We show this preposterous gadget to make this simple and important point: business offices could make the same mistake in buying figuring machines. For one reason or another, perhaps because of too short a line to choose from, they might get "too much machine for the job." That would be serious—because it's expensive.

## IT CAN'T HAPPEN WITH MONROE

Monroe has so many models it can fit any condition in any business. Take adding-calculators: Monroe has 24 models! From the small, hand operated Model L to the great Model A-1, "master mind" of all automatic calculating machines.

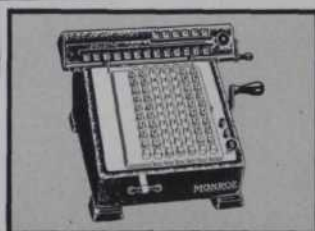
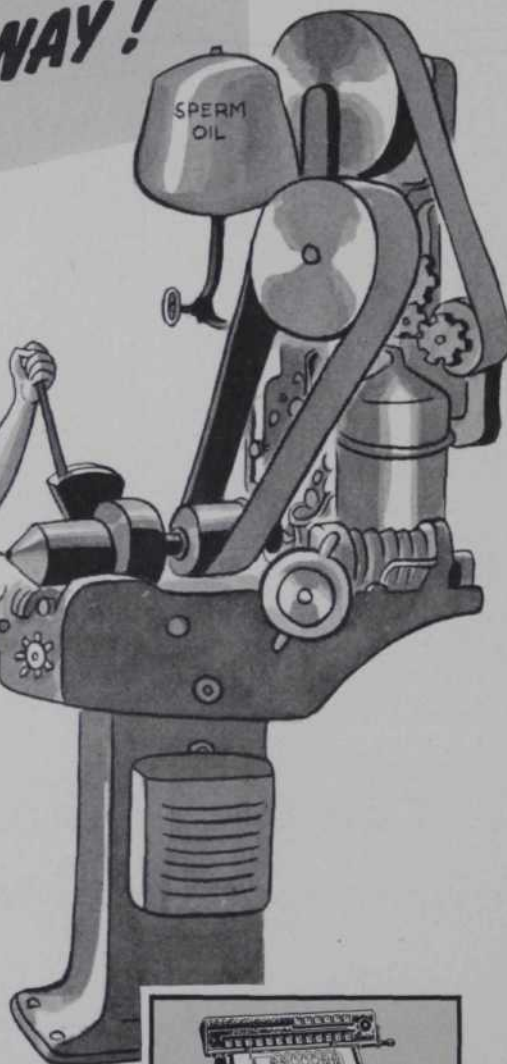
And Monroe offers the benefits of its experience, based on thousands of case histories, to determine just which machine best fits your business.

In short, Monroe's line is so complete it can fit any situation in any business. ONLY MONROE can give you the figuring service that "fits like a glove!"

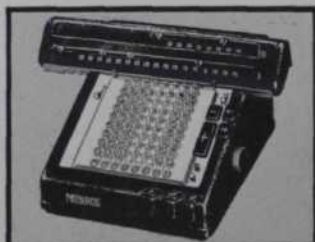
There is a Monroe machine for every type of business figuring—adding-calculators, adding-listing, book-keeping, check writing and check signing machines.

# MONROE

MONROE CALCULATING MACHINE COMPANY, INC. • ORANGE, NEW JERSEY



Lowest priced keyboard adding-calculator on the market (Model L). Multitables, divides, adds, subtracts. Spot-proof keyboard. Light weight, portable and hand operated. Ideal for office figuring or use at home.



A new Monroe (Model MA-7W). Simple and sturdy. Electric carriage shift and electric dials clearance. Divides automatically without pre-setting of levers. Priced to fit any budget. Economical for volume figuring or occasional use.

cent of total number of government employees were listed on the federal pay roll; 12 per cent at the state level; about 21 per cent in city government; and 12 per cent on county and township pay rolls. Many of the last group are part-time and temporary.

Total number of government workers by report of the Civil Service Assembly, increased from 1929 to 1931, decreased in 1932 and 1933, and then continued to increase until it reached an all-time high in 1939. Compared with ten years ago, total number of employees at all levels of government now is nearly 43 per cent higher.

Largest proportional increase has been at state level, with the states increasing number of employees in last ten years from 297,000 to 540,000. Greatest numerical increase has been in federal service, which in 1929 employed 862,000, and at beginning of 1940 was employing 1,296,000. In this period, number of city employees increased from 718,000 to 940,000, and of counties and miscellaneous governmental units, from 269,000 to more than 500,000. Educational employees have remained at about same numerical level.

Salaries and wages paid federal, state and local government employees in ten-year period 1929-1939 rose from \$4,938,000,000 to \$6,180,000,000.

At beginning of the 1930's, about 80 per cent of positions in executive branch of the federal Government were under civil service. Proportion then declined to almost 60 per cent, but is now back to more than 70 per cent, with number close to double that of 1930.

## COMPARISONS OF An Inventory of Man Power

man power and man-hour resources of United States and Axis powers raises question of need to increase domestic *per capita* productivity.

United States has available about 55,000,000 persons, of whom about 45,000,000 are employed, compared to total labor supply of Germany and Italy of 56,000,000 persons. With labor supply of Austria, Czechoslovakia and Poland added, Axis powers have available 80,000,000 to 85,000,000 workers; with France and Belgium included, total becomes upward of 110,000,000 persons.

As productivity now stands, employment of 56,000,000 workers of Axis powers at 50 to 60 hours a week as compared to our 45,000,000 workers at shorter hours amounts to a sizable advantage. Axis powers can concentrate 2,750,000,000 man-hours per week as compared to 1,800,000,000 man-hours a week in United States.

Only factor which compensates for relative inferiority of United States in man-hours is tremendous productivity per man-hour of highly mechanized industries. Installed horsepower of industrial equipment is twice *per capita* figures for Germany and Italy. Compared with 1914, when country used approximately three horsepower per worker in manufacturing industry, it today commands more than five horsepower per worker. Machinery-producing industries, in current highly developed state,



could expand equipment needed for munitions-producing industries at twice rate of 1914.

Machinery-producing industries, as distinguished from machinery-using industries, which will be called on to manufacture military and naval equipment, have a trained personnel greater by 400,000 workers than supply available in 1914. These industries, through their progress since 1914-1918, have become "The Great Reliance for National Defense," the Farrel-Birmingham Company, Inc., Ansonia, Conn., asserts in a booklet titled as indicated.

**Consumer Debt** TOTAL VOLUME of outstanding consumer debt repayable in instalments climbed to a high of \$3,719,800,000 in 1937. Low point of period 1929-1938 came in 1933, when total dropped to \$1,511,200,000. Both in 1937 and 1938 volume of instalment indebtedness was larger than in 1929, when it was approximately \$3,000,000,000.

Total volume of credit granted by major credit agencies in retail and cash loan groups, as distinct from credit outstanding, "reached its peak in 1929 at \$5,282,000,000 and in 1937 was almost as high (\$5,145,000,000). Repayments were high in 1929 (\$4,802,000,000) and rose further in 1930 to their peak of \$4,821,000,000. Outstandings showed a marked decrease in 1932, when repayments exceeded credit granted by \$711,000,000; but in 1936 they increased by \$773,000,000, the greatest net change in outstandings during the period studied."

Noted as significant is rise in importance of cash loans repayable in instalments as method of consumer financing alternative to retail instalment sales. Indebtedness arising from retail transactions accounted for approximately 75 per cent of all instalment debt in 1929-1938 period as a whole, but its relative importance fell from 82 per cent of the total in 1929 to 67.5 per cent in 1938.

Trends shown by cash loan debt differ in several respects from those shown by retail instalment debt. In 1938, amount of cash loan debt was more than twice as great as in 1929, while retail debt was five per cent lower. Cash loan debt as a whole showed a slight increase in 1930, but retail instalment debt dropped sharply in the latter year. Retail debt rose during 1934 and declined during 1938, while cash loan outstandings were lowest in 1933-1934 and at their highest point in 1938.

Instalment debt arising from automobile purchases accounted for 25 to 42 per cent of total instalment debt in years 1929-1938. Furniture stores were responsible for about 16 per cent of total debt for the period, personal finance companies for 11 per cent. Proportion of total outstandings held by commercial banks and credit unions combined was 9.6 per cent in 1937, whereas it had been only two per cent in 1929.

Consumer instalment credit is extended for most part to individuals whose annual incomes do not exceed \$5,000. An average of approximately nine per cent was added to their total purchasing power by instalment credit, while repay-

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### EYES ON THE WORK . . . NOT ON THE KEYBOARD

*The operator's eyes are fixed upon her "copy." There's no head-swinging or eye-shifting to induce fatigue and invite error. And right there you have one of the secrets of Underwood Sundstrand speed and accuracy.*

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World's Business.

ments absorbed a similar proportion of their total income.

At bottom of the 1929-1937 business swing in 1932, instalment credit granted totaled only six per cent of aggregate income of consumers using it, but at top in 1937 it amounted to 11 per cent. Repayments, lagging cyclically behind credit granted, reached a low of 6.4 per cent in 1933 and a peak of 11 per cent in 1938.

In years of business advance, instalment credit granted consistently exceeded repayments of instalment debt, giving rise to a net addition to stream of consumer power. In each year of business contraction, a net drain on consumer purchasing power was created. Maximum net addition to purchasing power for this ten-year period occurred in 1936, largest net drain in 1932. In both years amount involved was relatively small, roughly two per cent of total income of consumers receiving \$5,000 and under annually.

In ten years included, consumer instalment credit has consistently been less than half the total volume of consumer credit outstanding, which has ranged between a low of \$4,807,000,000 and a high of \$8,326,000,000. Difference between the two sets of figures represents total of consumer loans not generally payable on instalments, open account book credit arising from sales of commodities, and both open and instalment account arising from sale of services.

Figures are taken from report published by National Bureau of Economic Research, titled *The Volume of Consumer Instalment Credit, 1929-38*. Totals include instalment sales made by six types of retail establishments and all types of cash loans repayable in instalments. Insured F.H.A. (Title I) loans also are included.

### Training for Lathe Hands

AID in training of apprentices and help for experienced operators of nation's 55,000 turret lathes becomes available through Warner & Swasey Company's organization of "Turret Lathe Operators Service Bureau."

Applying Cleveland company's three point program, Bureau sends lecturers into manufacturing plants with sound slide films, charts and models, to show lathe operators improved techniques; provides 240-page text book for home study; publishes a monthly titled *Blue Chips* as means to exchange ideas and keep operators informed of latest developments in field.

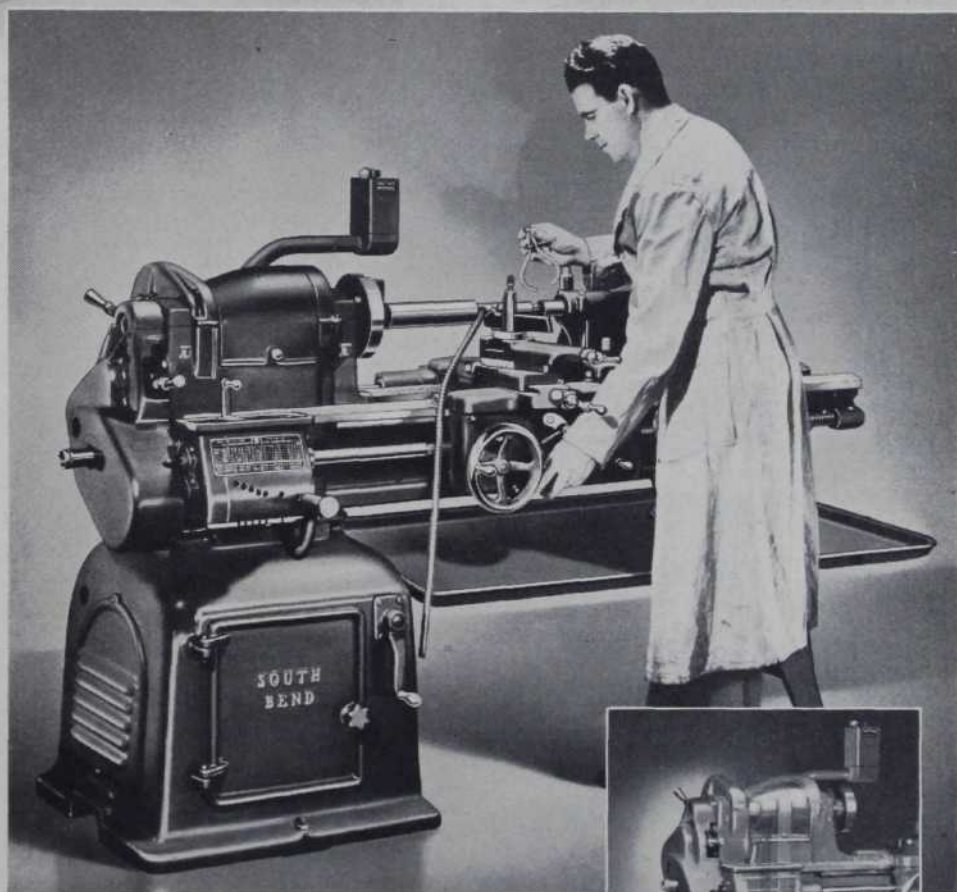
Turret lathes combine features of ordinary lathe with tooling equipment for production of duplicate parts in quantity. With other basically important machine tools, turret lathes are used in manufacture of airplanes, agricultural implements, oil well drilling equipment, refrigerators, and wherever metal is turned, including manufacture of all other types of machinery.

Paradox of metal-working industries is that whenever they reach high level of operations, they can never find enough qualified mechanics among jobless men looking for work.



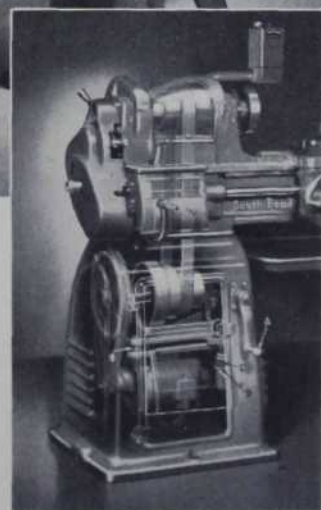


**H**UNDREDS of nationally known manufacturers have selected South Bend Lathes when streamlining their shop equipment to meet present day needs. Ease of operation, speed, power, accuracy and efficiency are some of the features responsible for their selection. Substantial savings in capital investment, power consumption, floor space and labor costs have resulted from their installation.



14½" Swing x 6' Underneath Motor Driven South Bend Lathe

The South Bend Underneath Belt Motor Drive provides an unusually wide range of spindle speeds. The direct belt drive to the spindle assures smooth operation, free from vibration, even at high speed, and permits finished turning with such precision that subsequent grinding, honing and lapping operations can often be eliminated. When slow speeds are required for machining large diameters, a wrenchless bull gear lock permits engaging the back-gears quickly. This fully enclosed drive is silent in operation, trim in appearance, powerful and economical.



Phantom view of direct drive



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## Is Our Freedom Immortal?

(Continued from page 16)

through my ears. This is what the newspapers of Italy are told to tell the Italian public. Over and over the editorial thought is stressed that Italy must have economic independence to enjoy political freedom. And, as the thought of economic independence has been stressed, Italians have unknowingly lost the last vestige of their political freedom.

What else could Italians hope to believe? With newspapers and radio vigorously driving home the thought of economic independence for the sake of political freedom, and with no minority voice to arouse the Italian mind to the fact that the program of economic independence was depriving Italians of what political freedom they did enjoy, the road was well paved for the further entrenchment of totalitarianism.

One important thought that may be lost sight of is this: There is both vice and virtue in every form of government. It is true that our conception of democracy is such that we recognize it as the government with the greatest degree of virtue and the least degree of vice. By emphasis on the virtues of a centralized form of government, the people of a nation with a controlled press are regimented mentally. When people are regimented mentally we behold an example of a people with a public policy that has definitely and vigorously become the public opinion of the land.

A country is in a precarious position when all men think alike. Freedom of speech and press prevents cut-and-dried,

made-to-order thought. Few measures, if any, are perfect. Few proposals are without a share of weaknesses. In a democratic community, the minority view is the one that hails the strength or weakness unseen by the clamoring crowd. Freedom of the press preserves the minority point of view and this minority point of view is the bulwark of American liberties.

New ideas simply do not burst into prominence with the full approval of the majority. The metamorphosis of a good idea involves running the gauntlet of denunciation, opposition, enlightenment and adoption. The idea of American liberty started with a minority as did the Christian faith which is upheld in our American nation. Both the Flag and the Cross were in the beginning enlivened by the fortitude of minorities.

A dictatorship was created in the state of Louisiana. The political progress of the state had been neglected. Huey P. Long gripped the imagination of the citizenry and started a building campaign which swept him into realms of power. His works added greater glory to his popularity and his public favor and his showmanship aroused a spirit of awe. Then it was that Caesar refused nothing but the crown, and he became the senator-governor-dictator of his own commonwealth, all in one.

Louisiana was in the throes of dictatorship, but that minority voice was kept alive through the constitutional freedom granted in our American Bill of Rights. This minority voice deplored the sacrifice of freedom in Louisiana. And a

## Spade work that makes harmony

A. W. Hawkes, President  
Congoleum-Nairn, Inc.

"One thing is certain and should be recognized at the earliest possible moment—laws cannot force people to cooperate. Cooperation and harmony in work spring almost entirely from mutual confidence—mutual confidence springs from a recognition on the part of two or more people that each is willing to deal honestly and fairly with the other, and, so far as possible, divide the 'fruits' of their efforts on the basis of equity."



WIDE WORLD



free press was maintained. It was this press that broke the shackles of slavery in Louisiana. Without our Bill of Rights, Louisiana would have remained enslaved for decades yet to come.

Modern dictators have cultivated a new technique in their attacks upon freedom of speech and press. The initial attack in a dictator's program is not made upon freedom of speech, press or assembly, the tripod upon which democracies stand. Modern dictators first curtail freedom of initiative by restraining the rights of industry. As business and industry is restrained by unfair regulation, confiscating taxes and demagogic abuse, the proletariat is accorded increased privileges, usually gifts out of the public treasury. Thus a country is divided and the avenue to dictatorial authority is gained.

### Attack minorities first

THE power that suppresses the voice of the minority is the voice of a misguided and pampered proletariat. Once the minority is fully discredited, the lid is clamped down upon the rights of free speech, assembly and press. This is a constant danger in the United States.

No one is going to step out into the open and tack an ordinance on a post in the public square which will read:

From henceforth nothing will appear in the public print or be expressed in the public forum without the written approval of the officer in charge of this precinct.

Neither will there be an old-fashioned burning at the public stake. Times have changed. Today the technique is to divide into classes, and then, having once divided, to provoke a quarrel between these classes. This usually follows a period of economic distress. In this way the minority is discredited.

The American people should remember that the freedom of the press is not a prerogative of the editor. Freedom of the press means freedom for all the people whether they have access to newspaper columns or not. The patriot with a pen in his hand and the power of expression in his soul is the power that our early forefathers had in mind when they sought to protect the right of free expression. They sought to arm the patriot, knowing that the fire of his zeal would save the nation whenever a crisis arose. It is the essence of American freedom and this freedom begets freedom as surely as tyranny begets injustice and abuse.

Traveling out of Germany sometime ago I was talking with an American from the East who was returning home from Bavaria.

"What did you find to be the general attitude of the people toward Hitler?" I asked.

He merely shook his head and said nothing. A few hours later, after our train had crossed into Luxemburg, he came to my compartment and said, "I wasn't taking any chances on being detained in Germany. That's why I didn't answer your question."

He hesitated and a moment later ventured, "Freedom too, you know, can be assassinated."

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"Business Stability and Profits" is our new booklet, explaining how American Credit Insurance solves the credit risk problem. We will gladly send you a copy. Address Dept. N.

\*Name withheld upon request, but it can be verified.



**J. F. McFADDEN, President**  
First National Bank Bldg., Baltimore  
OFFICES IN PRINCIPAL CITIES OF  
UNITED STATES AND CANADA



# Regimenting the Markets

## Boston Conference on Distribution

### Studies Effects of War Reins

War-time price controls and the fate of free competition were leading topics at the 1940 Boston Conference on Distribution.

Most of the speakers assumed as a matter of course that we are going to war. The impact of war on distribution, as they anticipate it, is likely to be very disquieting. To Leo M. Cherne, author of "M-Day and What It Means to Me," we are no longer under a peacetime economy. The war effort will be "brutal" on the civilian as well as the military front. From the day the United States enters the war the trade associations will be merely liaisons between the Government and industry, capital will be rigidly controlled, distribution will face a shortage of men, "the prices of your commodities will certainly be fixed" and "you will be taxed as never before."

Only food and fuel prices were fixed by the Government in the World War, but according to Dr. David R. Craig, president of the American Retail Federation, and others we may expect controls with teeth this time. Concepts of the State have expanded since that primitive era.

Speaker after speaker talked of the fear of inflation by business and said it is the task of distribution to prevent it. Selfish interests must be kept from impeding the flow of goods and services. Of the more imminent danger of inflation by government, nothing was said.

Congress has power to impose controls at will as prices rise where scarcities have developed, Professor Nathan Isaacs of Harvard told the conference.

Here it seemed that economic law was rather slighted. In war when goods must be had in a hurry a premium must be paid to get them. Under any other plan there is far less likelihood of getting what is needed and getting it on time. When a scarcity develops, instead of punishing "speculation," the best way has always been to let prices rise until the shortage has been supplied. Nothing restricts production as quickly as maximum prices, and no amount of patriotic beating of the tom tom will change that fact. Production must be boosted, not held back.

True, larger profits may be made by following the natural course. But labor also profits. The soldier gets his in bonuses and "adjusted compensation" either way.

Professor Isaacs raised the question of the best means for the Government to use in milking business. Shall business be permitted to make profits and then take the profits away in taxes, or should the Government impose controls that will keep down prices to where profits are impossible. This is just one of many fiscal problems raised by war.

The free enterprise system faces a test to justify its existence, said Saul Nelson of the U. S. Department of Labor. Business didn't start the war talk but here was official indication that it is to be held responsible for all that happens.

No one would dispute that the American way is productive of more goods and better for the general welfare than re-



distribution of existing wealth, said C. F. Hughes, business news editor of the *New York Times*. This would indicate that Mr. Hughes has not read much of the current literature of the New Thought economists, because this very fallacy is one of their commandments.

Mr. Hughes also made the provocative remark that the profit motive has been receiving plenty of nourishment of late. The point was hard to reconcile with two statements of fact adduced by other speakers. P. A. O'Connell of Boston, general chairman of the conference, had quoted the net profit of all retailers as three-tenths of one per cent in 1938 and 1.6 per cent for 1939. Professor Sumner Slichter of Harvard said that all corporation profits last year were 42.3 per cent less than in 1926, with the same volume.

Candid advice to business on the war crisis was offered by Bernard Lichtenberg, president of the Institute of Public Relations. There is nothing new about the present situation in world politics, he said. Today's crisis has many times had its counterpart in the past. Public opinion searches for scapegoats in all crises. Be careful, Mr. Lichtenberg told business executives, not to promise too much. Don't promise to make up full pay for those of your employees who are drafted and don't promise to hold their jobs for them, because no one can foresee enough of the future to make such commitments safely.

But while these rigid war controls over the market place were being predicted without protest, free competition in the normal structure of business found stout defenders. George J. Feldman, Washington attorney and author of business books, called for repeal of the state "unfair practice" laws, which he said had become outright devices to fix prices. Gordon Cook,

editor of *The Voluntary and Cooperative Groups Magazine* and himself a spokesman for independent food dealers, deplored the fact that "a suicide squad is trying to blast the chain stores out of business." If their attempt should succeed, he said, the chain store enemies would destroy themselves as well.

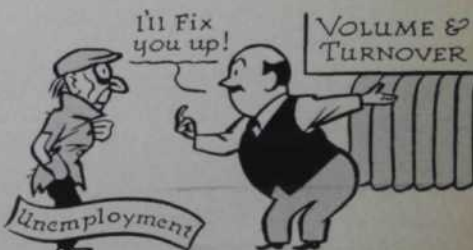
Many small, independently owned food stores do face extinction if they continue as lone wolves, according to Mr. Cook, but when they are organized into voluntary cooperatives their costs can be held at a lower point than the chains and super markets have reached.

Free competition, American style, supplies the incentive needed for continued progress, said Harvey S. Firestone, Jr., vice president of the Firestone Tire and Rubber Co. No other system has been so successful or so just, he added.

Governor Stark of Missouri, leading foe of interstate trade restrictions, brought word that the Balkanization of the 48 states had been halted by cooperative efforts among the state governments.

Thurman Arnold, Trust-busting Assistant Attorney General of the United States, explained the idea behind his anti-trust prosecutions aimed at the "log jams and toll bridges of distribution." As an example of his handiwork he cited the indictment of 102 persons and firms in Cleveland for keeping low-cost plumbing off the market. He said an illegal combine consisting of manufacturers at the top, labor unions at the bottom and master plumbers and jobbers in between had united to keep out of the market those manufacturers who create cheaper methods of distribution.

Several speakers reaffirmed their faith in the principle that prosperity in war or peace depends on greater production and larger volume of turnover at lower prices. Professor Slichter declared that this aim offers the only permanent remedy for unemployment. When prices are held up artificially, turnover is lower, profits are



reduced, production is curtailed and employment likewise. Most concerns, he said, price their products too high for maximum profits and maximum employment. Business underestimates the responsiveness of the public to price changes. The same principle, he reasoned, applies to labor. We have been trying in this country to sell more labor by charging more for it. That hasn't worked any more than it would work by trying to sell more goods at a higher price.

The old argument on Margin vs. Volume is still unsettled. Probably because the Margin protagonists have spent most of their argumentative talents in skinning the "chiseler," who to them personifies Volume.

—FRED DEARMOND



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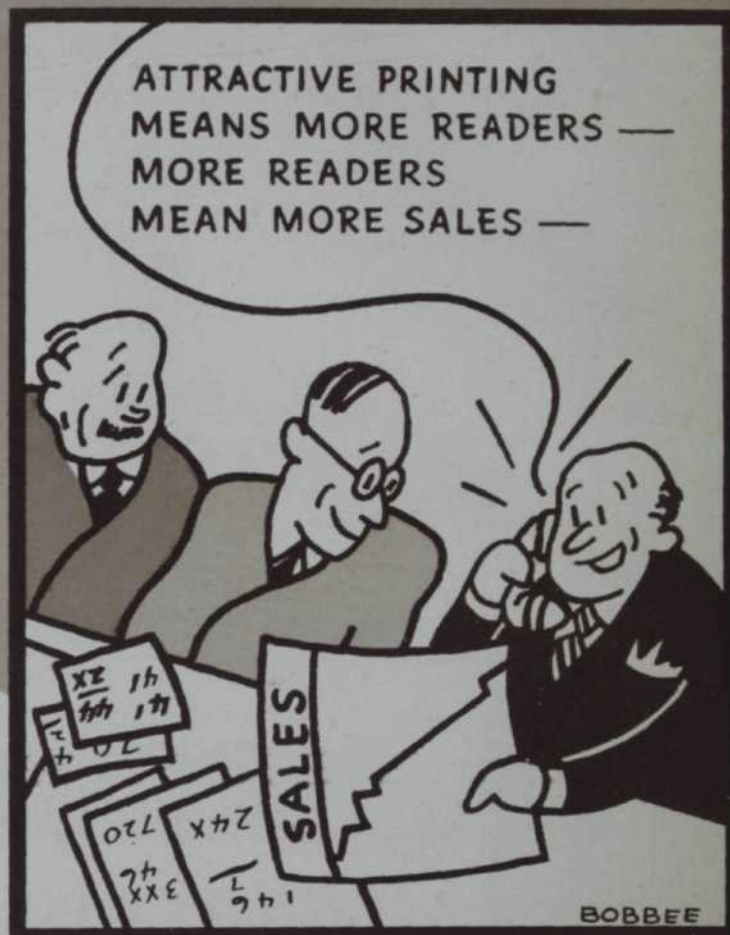
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# MAN TO MAN in the MONEY MARKETS

By CLIFFORD B. REEVES

## Industrial Boom Is Under Way

RECOVERING from its obvious disappointment over the defeat of Willkie, the financial community, with admirable realism, began immediately to appraise business and financial prospects in the light of the election results.

Even those most bitterly disappointed by the election had to admit that the business outlook was extremely good. Industrial activity, as measured by the new Federal Reserve Index, is at a new all-time high, even though defense spending has hardly begun. With defense expenditures of \$18,000,000,000 already approved by Congress, and with still another \$18,000,000,000 probably to be appropriated, a record-breaking industrial boom seems to be in prospect.

The injection of that much additional purchasing power into the national economy over the next few years seems certain to have a highly beneficial effect, at least for the time being, on nearly every type of business, no matter how remote from the actual defense program. Armament expenditures will unquestionably create millions of new jobs and billions of additional wages. This takes no account of additional British buying which, if the war continues, may run to billions more.

This great increase in public purchasing power seems certain to materialize over the next few years, regardless of the outcome of the war in Europe. If the war is long, British buying will continue and our own defense program will proceed on schedule. If England falls and discontinues its buying, the American program will have to be speeded up even further.

Whether the great prospective increase in industrial production will be translated into larger corporation profits and higher security prices, however, remains a debatable question. Such developments will depend largely upon the attitude of the new Roosevelt Administration toward bus-

iness and business profits, and upon the final effect upon profits of existing or future excess profits taxes. The doubt of investors on these two questions is dampening the investment enthusiasm that would otherwise almost certainly be created by the rosy industrial picture.

## Election Day in the Stock Market

A GREAT many Willkie supporters, instead of making bets on their candidate at prevailing odds before the election, made "indirect bets" by buying common stocks. Their theory was that if Willkie won, the market would probably move up sharply, giving them a substantial profit; while if Roosevelt won, the market, although it would not advance, would probably not suffer a severe decline.

Brokers reported that a substantial volume of orders was placed, on this theory, in the two weeks immediately preceding the election. Buying of this type was reported to be an important reason for the pre-election strength in the stock market.

The theory worked out reasonably well. The market, on the day after election, although it declined, did not break badly. So those who wished to sell were able to do so without taking any great loss.

Brokers also reported that just prior to the election they received many buying orders for execution on November 6, "If Willkie is elected." On the day after the election, thousands of these orders were cancelled.

## Excess Profit Law Is Bewildering

THE new Excess Profits Tax Law is so confusing and contradictory that tax experts, business men and even legislators are already predicting that it will be immediately revised, or that an entirely new bill will finally be written. The best that can be said for the recent Act was that it settled the important

question of amortization rates, which had been holding up defense contracts.

The following excerpt from the law will give you some idea of the legal obfuscations it contains. This is not a quotation from Gertrude Stein, but is the actual language of the Law: and you as a business man are supposed to understand it. If you don't, try it over on your attorney—or on your piano. Here goes—from Section 752 (b) (4) of the Second Revenue Act of 1940, headed "Taxable years after certain exchanges under section 112 (b) (5)":

In the case of an exchange after the beginning of the first taxable year under this sub-chapter of any transferor or transferee upon such exchange, involving two or more transferors, or one or more transferors and one or more other persons, if immediately after the exchange no one of such transferors, or its shareholders, or both, and no one or more of such other persons are in control of the transferee and if such exchange is an exchange described in section 112 (b) (5) or so much of section 112 (c) or 112 (e) as refers to section 112 (b) (5), the highest bracket amount of any such transferor for any taxable year after the exchange shall be an amount equal to its highest bracket amount immediately preceding the exchange—

(A) Minus an amount which bears the same ratio to its highest bracket amount immediately preceding the exchange as the excess of its daily invested capital for the day of the exchange over its daily invested capital for the day after the exchange bears to its daily invested capital for the day of the exchange, and

(B) Plus an amount which bears the same ratio to the excess over \$500,000 of the sum of the amounts computed under subparagraph (A) with respect to each transferor, as the amount computed under subparagraph (A) with respect to such transferor bears to the sum of the amounts computed under such subparagraph with respect to each transferor.

Aside from the sheer mysticism of certain passages, such as the one quoted, tax experts also objected to the Act on the grounds that it was not an Excess Profits Tax Law at all, but just a bill to jack up regular corporation taxes still further. Under the new law, the basic rate of income taxes for corporations earning \$25,000 or more is 33½ per cent higher than a year ago.

The taxes levied have almost no relation to war profits, and the corporations that will be hit the hardest are the unfortunate ones that have had the poorest depression record, and those that are in the early development stages.

## Stock Exchange and S.E.C. Spar

THE New York Stock Exchange and the Securities and Exchange Commission, which seemed for a while to be living amicably together, may soon be "on the outs" again. A serious difference



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Mr. Executive: If you are not CHICAGO WATCHCLOCK protected against fires—thieves—accidents—have one of your men check your Watchman's Supervisory System against these three points.

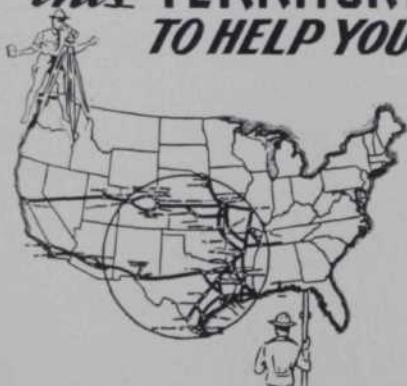
Then have him call in a Chicago Watchclock Representative. The information you will receive will point to **MOST DEPENDABLE PROTECTION** on an economy basis....



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WATCHCLOCK CORPORATION  
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111 JOHN STREET • NEW YORK CITY

**WE'VE SURVEYED  
this TERRITORY  
TO HELP YOU**



The Missouri Pacific Industrial Development Department is prepared to supply helpful information to industries considering plant expansions or seeking new locations in any of the eleven Central and Southwestern states served by Missouri Pacific Lines.

Competent engineers and technologists have studied raw materials, labor laws, taxes, transportation, markets, rate comparisons, warehousing facilities and other factors essential to the proper location of processing, manufacturing or merchandising establishments. Their findings are available for your use. Write for complete information—

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Director - Industrial  
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St. Louis, Mo.

D. P. PACE  
Land & Industrial  
Commissioner  
Houston, Texas



of opinion between the two organizations has developed in connection with the attempt of the Exchange to enforce its long-standing rule against "multiple trading."

The amount of business that the enforcement of the rule will return to the New York Stock Exchange is not important. The real question involved is whether the S.E.C. has a right to interfere with the internal management policies of the Exchange on matters that affect only members of the Exchange, and not the general investing public.

For many years, the Exchange has had a ruling on its books forbidding any member to "make markets" on other exchanges in stocks listed on the big board. This ruling does not prevent any member of the New York Exchange from executing orders as a commission broker for his customers on outside exchanges even when the same issues are listed in New York as well.

It is merely intended to prevent him from dealing in them as a specialist or otherwise.

This rule had never been actively enforced. But recently the Exchange became concerned over the fact that other outside exchanges were trying to build up their business by using New York issues, priced from the New York tape and traded by New York members using the capital of New York member firms. So the Exchange decided to enforce its old ruling against this "multiple trading" by its own members.

Before declaring the rule effective, representatives of Exchange advised the S.E.C., and the latter organization is reported to have raised no objection. After the Exchange announced its intention to enforce the rule, however, the other exchanges complained to the S.E.C., which decided to investigate the matter.

The absurd thing about the complaints of the other exchanges was that nearly all of them, including Boston, Chicago, Detroit, Philadelphia and San Francisco have similar rules to protect their own business. Furthermore, after the New York Exchange had declared its rule effective, the Chicago exchange reported that its round-lot business had increased rather than decreased.

But, regardless of all this, Commissioner Pike, after an investigation by the S.E.C., addressed a letter to President Martin of the New York Stock Exchange, "requesting" that the Exchange rescind its ruling. New York brokers felt that the delivery of a letter, rather than the issuance of a formal order by the Commission was an admission of weakness by the S.E.C. as to its legal right to force its point of view on the Exchange.

The ruling, if allowed to stand, said Mr. Pike, "will endanger the future of the affected regional exchanges and as a consequence, will impinge upon the welfare of the investing public within the region served by these exchanges."

This was regarded in New York as a deliberate attempt by the S.E.C. to decentralize the country's exchange machinery.

The S.E.C. is known to favor such decentralization unofficially, but has no power under the Securities and Exchange Act of 1934 to enforce its views.

The New York Stock Exchange maintains that the interests of investors are best served by concentrating all buyers and sellers for a given security in a single market-place, so that the best bid and best offering are always easily obtainable, rather than by developing duplicate markets in various sections. New York brokers think that the function of local exchanges should be to develop listed markets in local securities that are not listed in New York, rather than to create secondary markets in New York issues.

### New Capital Going into Industry

ONE of the most encouraging signs in many years was the large increase that occurred in the third quarter of the year in the total of "new money" financing. The lack of financing for new capital purposes has been regarded by many economists as the basic reason for the country's failure to achieve a sound economic recovery. The total of new security issues has sometimes reached fairly respectable figures, but most of this new financing has represented merely the refunding of outstanding issues.

Very little new money has been going into business and industry in recent years.

In the three months ended September 30, however, a sudden reversal of this trend was apparent. Of the security issues registered in that quarter, 28.6 per cent was for new money purposes, as compared with only 8.7 per cent in the corresponding quarter of last year. And in September alone, new money accounted for 49.8 per cent of the total security registrations. The total of actual new capital raised by corporations through registered issues in the third quarter was \$100,412,000.

Because many corporations prefer to raise their new money by issuing stock rather than bonds, the increase in the percentage of equity financing was perhaps natural.

Stock issues in the third quarter accounted for 26 per cent of the total



registrations, as compared with only 13 per cent in the corresponding quarter of 1939.

If these trends continue, they may represent the most important financial developments of the past decade. A continued revival of new money financing would seem certain to get the country's economic engine off dead-center, where it has rested so long.

The recent figures disprove any possible belief that capital is "on strike." Investors in recent months have clearly shown their willingness to supply industry with new capital. So far, the demand for new capital has been created largely by the national defense program, but bankers hope that the success of recent new money issues may encourage other corporations that are not engaged in the defense program, to raise money for long-postponed replacement and modernization of plants.

#### Bank Credit for Defense

**DUE IN LARGE** measure to the financing of defense orders, a major expansion in bank credit seems to be under way. The total of outstanding loans by banks to business, agriculture and industry seems destined soon to reach a new ten-year high.

Business loans by Federal Reserve member banks in 101 cities are now nearly \$500,000,000 greater than a year ago. Of this gain, approximately \$175,000,000 occurred in October alone.

Banks in all parts of the country are actively seeking to satisfy the sudden demand for loans, and the Reconstruction Finance Corporation is cooperating in this by giving the banks the first opportunity to make such loans.

In connection with the defense program, the R.F.C. is granting loans only in cases where the application does not meet ordinary banking standards.

Recent passage of the Sumners-Barkley Act did more than any other one thing to open the great reservoir of bank credit for the financing of national defense. A holder of a contract for construction of a plant for national defense purposes, which is to be paid for ultimately by the Government, is now permitted to assign his contract to a bank as collateral for a loan.

Such government contracts, which used to be non-assignable, now become "bankable" for the first time. This gives the nation's banks an important new outlet for idle funds, makes private credit available to the builder, and enables the Government to make its payments for the plant over a period of time.



*"She spends enough time there to get a job as a substitute. Every trip is a Special Delivery."*

*"Three times a week! No wonder she never loses her wave."*

*"Or her nerve. I hope she falls asleep in the Newsreel."*

SUCH outbursts of office wit and envy always followed Miss Wilp's afternoon departures. Miss Wilp was secretary to the office manager, who didn't like to have more than five dollars in stamps in the office at any time. So Miss Wilp visited the postoffice every other day—and sandwiched in shopping, her hairdresser, and social etcetera.

Then the office manager Caught On—and ordered a Pitney-Bowes Postage Meter. Miss Wilp is just a steno on the day shift now.

With a Postage Meter, nobody runs out for postage, or out of postage. The Meter holds any amount you set it for; protects postage from loss, theft and damage; supplies any denomination

needed, for any kind of mail. And Metered Postage has no value except on your business mail.

There are no stamps to stick. The Meter prints postage, seals envelopes cleanly and swiftly, prints a dated postmark and an advertising slogan on the envelope at the same time. Visible counters show postage used and on hand—make postage accounting easy. Metered Mail, already postmarked and cancelled, skips two postoffice operations, can get away faster.

The Pitney-Bowes Meter invariably saves time, cuts postage cost, speeds up mailing. Everybody likes it—but Miss Wilp.

Don't tell us you haven't a Postage Meter in your office? Or rather, do tell us—and we will arrange a demonstration in your office on your own mail. There's a Meter model for every office, large or small. Call our nearest office...

#### The Postage Meter Co. 1318 Pacific St., Stamford, Conn.

IN CANADA: The Canadian Postage Meters & Machines Co.

PITNEY (METERED MAIL) BOWES

- ☐ Send me your illustrated brochure  
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Write for Circular describing HAND, FOOT & ELECTRIC MODELS.



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## Industry's Wants Underwrite Our Future

(Continued from page 22)

Much has been written and many experiments have been conducted for the use of plastics for making doors, automobile bodies, and so on complete at a comparatively low cost, but there is a call for plastics possessing greater strength than those now available.

### A new plastic wanted

"FLAMEPROOF," "nonshrinkable," "transparent," "not adversely affected by atmospheric conditions" are a few of the specifications for a plastic desired for watch and instrument dials, spectacles, and protective goggles where clear vision is essential and nonbreakage important.

Industry would also like a light-weight plastic material with good light transmission and optical properties, having resistance to mechanical abrasion and chemical attack.

Such a plastic might also make possible unbreakable transparent bottles. We would then want, of course, white or colored plastics to substitute for cork as stoppers. These, like the bottle, should be insoluble in perfumes, liquors, and wines, and would have to be flexible enough to adapt themselves to variations in bottle necks.

Here is another interesting specification: Dielectric insulating material having low losses at ultra high frequencies, to be nonhygroscopic, nonbrittle and, if possible, have reasonable flexibility, a melting point at least up to the red heat region, and a very low conductance for use in the radio industry. It is said such a plastic would solve a host of problems now in a state of arrested development.

A plastic with dielectric properties and capable of withstanding a high temperature is much wanted. A material for gears or internal pump parts which would not absorb moisture would be helpful.

A coating is wanted for records for electrical transcriptions, which would remain plastic for a greater length of time. The material should be such that, upon being dried, it would be as durable as pressed records.

### Rubbery synthetics

RUBBER serves in so many ways that it is frequently used where a material of somewhat different characteristics might be better. It is also used where its most valuable characteristic may not be needed. This has been a factor in providing a waiting market for the new synthetic rubbers which, in certain properties, outdo the natural gum. These synthetic products are now being used on a scale that gives rise to a demand for a process for their reclamation from used goods. A rubberlike material which would retain its properties at temperatures of 500 degrees Fahrenheit is on the list.

Tires for road-building equipment which embody only such features as

static load carrying ability, oil and sun resistance, a life of 2,000 miles, and speeds up to 20 miles an hour, with traction speeds up to 40 feet a minute would be serviceable. Operators must now overtire their equipment with tires having features they do not need.

One manufacturer says that the development of a white powdered material with approximately the same degree of fineness and the same reinforcing effect on rubber as has carbon black would be a distinct contribution to the advancement of the rubber industry.

Also wanted is an economical process for removing sulfur from vulcanized rubber. A material to be added to a rubber mix to reduce the diffusion of air through the rubber would extend its utility.

Notwithstanding the procession of new alloys, some needs have not been met. A more ductile steel for deep drawing is wanted.

There is a real place for a metal alloy that would resist pitting from electrical arcs, and a steel alloy which will cast readily, machine freely, and be acid and heat resisting. Steel bars suitable for machine gun barrels that would be free machining, heat and wear resisting, would be welcome.

### Iron improvements wanted

THE oil industry could use a low-cost corrosion-proof cast iron to combat corrosion caused by sulfur gas or sour oil. If a cheap pure iron powder were available, oilless bearings and small machine parts could be produced to advantage. In aircraft production, stainless steel with a yield point of 150,000 pounds a square inch would be extremely valuable.

Manufacturers of large power washing equipment would like a metal not attacked by soap or water and having structural strength approximating that of stainless steel.

The sterling ware industry could use a nontarnishing alloy with a minimum of 925 parts of silver per thousand. In the dairy industry, the cry is for an alloy that will resist brine and that can be rolled into sheets suitable for contact with milk. Again, a machinable casting alloy insoluble in either hot or cold milk would help.

Another industry wants small diameter steel wire which would be rust-proof without coating and without having to be put through the expensive stainless process. A metal for use in the rotary pump industry that is more resistant to wear under nonlubricated conditions; one that will retain a tensile strength of at least 60,000 pounds a square inch at a minimum of 2,200 degrees Fahrenheit for use in mandrels and dies, and an inexpensive, low-resistance, nonfusing, noncorroding contact material for use in devices which open or close electrical circuits are further wants.

Who has an aluminum solder that works as well as common lead solder



does on tin? Then there is need for a soldering flux that will not cause corrosion of soldered parts in service. A means to make copper and brass stainless would be valuable as would a material to take the place of tin in bronze alloys. It is well known that an economical process for the recovery of manganese from low-grade ores would be of vast importance in the United States, particularly at present.

The development of a chromium-plating process for use on aluminum would also be valuable. Although a cast iron that will bend under stress has been produced in the laboratory, its development on a commercial scale might be regarded as the greatest single development in the cast iron industry.

### Soft metal to be hardened

A DIFFICULT situation in the fabrication of carburetors and fuel injection apparatus would be overcome if a metal that can be fabricated in a soft state and then hardened to withstand wear were developed.

The chemical industry, touching all other industries, constantly produces new products but the needs are not yet satisfied. What about a nontoxic substitute for ethyl alcohol for use in flavoring extracts and food products? An inexpensive abrasive grain that would have a hardness in the range of the diamond?

A product that would afford greater moisture-proofness than paraffin, afford a surface that would be harder, so it would not have a greasy feel, and would not collect dust as paraffin does, for use in the packaging industry?

Glass insulation wants a nonflammable binder. A cheap noncorrosive antifreeze for use in shipments of wet coal in winter would be advantageous. Much could be done with a compound to replace mercury now used in the binary vapor power cycle. Sanitation could use to advantage a tasteless and odorless substance for the treatment of water.

There are great possibilities for a process whereby materials such as lumber could be made really nonflammable; a method for recovering emulsified greases from sewage would prevent expensive waste, as would a safe low-cost solvent for the extraction of fats and oils in the rendering industry. The removal of dissolved salts such as sodium chloride and sodium sulfate in water conditioning would answer a great and pressing need.

### Better polish, cleaning

THE shoe polish industry would welcome a substitute for carnauba wax. It would also like to see home production of montan wax, now imported from Germany.

The dry-cleaning industry could use a solvent that would be noncorrosive, free from fire hazard, not too volatile, and of course not too expensive. A safe, economical material for dry cleaning floor coverings is also wanted.

Vegetable fibers tend to dry out and become brittle with age. This shortens the life of whisks and other brooms. How

# NATIONAL DEFENSE

## Industry's No. 1 Job

*by Westinghouse*



• *There's probably no single subject attracting more interest today than our National Defense program. Everyone wants to know the progress American Industry is making in producing huge stores of guns, planes, ships, tanks and munitions.*

• *Right now, several of our plants are working at top speed producing gun equipment and other machines which you would never find in the catalog of the thousands of products we manufacture. And very soon our production facilities will be substantially increased with the completion of fifteen new buildings in six different states.*

• *But the manufacture of these emergency products is only a part of the equipment our company is supplying. The electrical products that we build are a vital necessity in the National Defense program. Our long experience in designing and building practically every known electrical product is now being utilized to the limit by both government and industry alike.*

• *Our plants are working night*

and day to fill orders for millions of dollars worth of electrical equipment—equipment such as turbines for marine service; motors and control equipment for cargo ships; motors and generators for submarine tenders; generators and X-Ray equipment for the Army; radio equipment for all the Services; Seadrome contact lights for naval air bases; distribution and instrument transformers for shipbuilding yards. Then there are ignitron rectifiers, multiple arc welders, meters, lighting equipment, Micarta and scores of other products, all wanted in a hurry by other manufacturers who are working on important defense orders.

• *In addition to filling these orders, we have still others from the more than 100,000 dealers and wholesalers who sell our home electrical products and Mazda Lamps.*

• *All of these are orders that must be filled. Neither we, nor any of our industry partners, can afford to permit any bottleneck or business stalemate occur because of lack of the equipment that we supply. We must constantly bear in mind, too, that even greater demands will be made on us tomorrow.*

• *One of the most important things our company has done to assure efficient fulfillment of all these demands is the creation of an Emergency Products Division. Through the work of this division we are maintaining full concentration on defense problems, but in ways that least affect the important production of our regular electrical lines.*

• *National Defense is most certainly a tall order. And we at Westinghouse, like all American Industry, consider it the most important order in our history.*







Rhode Island Hospital National Bank,  
Providence

The Second National Bank of New  
Haven

The Trust Company of New Jersey,  
Jersey City

Wells Fargo Bank & Union Trust Co.,  
San Francisco

Wachovia Bank and Trust Co., Win-  
ston-Salem, N. C.

A business man may obtain a complete copy of the report upon which this discussion is based by addressing the nearest of the banks indicated. If you have an answer or a product to fill any of the needs expressed, it will be welcomed by one of these banks, or by Bert H. White, vice president, Liberty Bank of Buffalo, director of the service.

Who can say that opportunity is dead and that there is no more creative work to be done in America?

**STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933, of Nation's Business, published monthly at Greenwich, Connecticut and Washington, D. C. for October 1, 1940.**

City of Washington, County of District of Columbia, ss. Before me, a Notary Public in and for the state and county aforesaid, personally appeared Merle Thorpe, who, having been duly sworn according to law, deposes and says that he is the Editor of Nation's Business and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Chamber of Commerce of the U. S. of America, Washington, D. C.; Editor, Merle Thorpe, Washington, D. C.; Managing Editor, Raymond Willoughby, Washington, D. C.; Business Manager, Lawrence F. Hurley, Washington, D. C.

2. That the owner is: Chamber of Commerce of the United States of America, said body being an incorporated organization under the laws of the District of Columbia, its activities being governed by a Board of Directors. The officers are as follows: President: James S. Kemper, President, Lumbermens Mutual Casualty Company, Mutual Insurance Building, Chicago, Ill. Vice Presidents: Thomas H. McInnerney, President, National Dairy Products Corp., 75 E. 45th Street, New York, N. Y.; Clem D. Johnston, President, Roanoke Public Warehouse, 369 W. Salem Avenue, Roanoke, Va.; B. C. Heacock, President, Caterpillar Tractor Company, Peoria, Ill.; I. N. Tate, Vice President, Weyerhaeuser Sales Company, St. Paul, Minn.; James F. Owens, President, Oklahoma Gas & Electric Company, Oklahoma City, Okla.; W. C. Mullendore, Executive Vice President, Southern California Edison Company, Los Angeles, Calif. Chairman Executive Committee: John W. O'Leary, Chamber of Commerce, U.S.A., 1615 H Street, N.W., Washington, D. C. Treasurer: Robert V. Fleming, President and Chairman of Board, Riggs National Bank, Washington, D. C. Secretary: Ralph Bradford, Chamber of Commerce, U.S.A., 1615 H Street, N.W., Washington, D. C.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

**MERLE THORPE**  
(Signature of Editor)

Sworn to and subscribed before me this 4th day of October, 1940.

(Seal)

**WALTER HARTLEY**

(My commission expires Sept. 1, 1942)

REPUBLIC MECHANICAL RUBBER PRODUCTS

# CHALLENGER



**ROUGH AND READY  
ANSWER TO TRANSMISSION  
BELT NEEDS**

*Rough* in the sense of tenacious physical and mechanical strength that provides the highest available type of quality performance . . . as demonstrated each day in every industrial field the country over. Ready in that your nearest Republic Distributor has Challenger in his complete stock of Republic Belting and Hose . . . all set to fill your requirements with the greatest possible dispatch. Briefly, that is the story back of Republic's Challenger Transmission Belting in regard to its ability to serve the interests of your plant. **REPUBLIC RUBBER DIVISION OF LEE RUBBER AND TIRE CORP., YOUNGSTOWN, OHIO.**

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## Mars & Co., Architects

(Continued from page 19)

reduce heating costs of the buildings.

Overhead protection of buildings against direct hits of explosive bombs cannot be provided, the British say, excepting in special cases where there are natural facilities, such as overhanging cliffs which may be tunnelled at reasonable cost. Lateral protection against bomb explosions more than 50 feet away is the chief aim. The British recommend that walls of buildings containing vital operations be of a splinter-proof thickness up to at least the height of the machinery enclosed.

Demolition floor slabs of concrete are recommended to sustain the load of debris from above.

To protect against incendiary bombs, the British advise roofs of concrete six inches thick; or, where that is impracticable, canopies of one-fourth-inch steel. Fire-fighting equipment and vital or inflammable supplies should be housed in shelters or protected buildings.

Particular attention to steam boilers, surface pipes, switchboards, cables, first-aid posts and other vital parts is advised. Telephone exchanges and switchboards are of utmost importance in war time.

### Glass damage may be great

THE typical photograph of London air-raid damage shows countless gaping windows, while the news accounts tell of streets littered with glass. In an explosion, window glass constitutes a deadly missile, both on the street and inside buildings. To minimize window danger in raid time, various precautions were recommended by the British before the present war.

Windows in new buildings should be high above the floor, the advice reads. Certain structures such as power houses should have solid walls and no windows at all. Wired or other non-shatterable glass and external steel shutters firmly attached were other anti-blast precautions recommended in England before 1939.

The windowless factories which some American firms recently have been building for technical reasons undoubtedly offer much incidental protection against damage from explosive bomb fragments and missiles, incendiary and even gas bombs.

This does not mean that glass necessarily should be taboo in a building whose air raid shelters are adequate. A manufacturer of glass block, queried in the preparation of this article, stated that "the extent to which sections of the block would become secondary missiles" as a result of bombing is uncertain.

"Our block would be splinter-proof because of the double wall of which the block is made, and the small area of each unit over that of larger areas of window glass," he said. "Glass block will withstand a much greater force of impact than ordinary flat glass, due to its ribbed structure and the thicker faces. When the outer face is broken, the in-

terior face is still a barrier to flying missiles."

Air-raid precautions are most easily arranged when an establishment is being newly built. Those fortunate enough to be able to do so, may locate their new plants in less exposed positions. Natural shelter afforded by slopes of hills, woods and broken terrain is always valuable.

### Disadvantage in decentralizing

STRATEGIC need for industrial decentralization in this country is indicated by a War Department map, "Allocated Munitions Load," a simplified air raider's view of this country. Yet, even if we could achieve the impossible, we probably would be wise not to rely too much on decentralization. Great Britain's National Housing and Town Planning Council only recently reported that small clusters of population may be at least as vulnerable as large ones, if not more so, because large cities may be more effectively defended. An isolated enterprise, it would seem, needs to do more thinking about air-raid precautions than one in a large and protected center.

Another method is to disperse new factory buildings, warehouses, homes, and other structures in a vulnerable area. The more scattered the targets, the less the likely damage from a single bomb. Where "straight line" operation is desirable, it is a matter of "insurance" to have a series of small buildings with underground connections, rather than one long building. But it is best if structures are not laid out in a straight line.

Small, scattered buildings have the incidental advantage of better ventilation and light. The space between them, which ought to measure 200 feet or more, may be used for storing materials and, if it ultimately becomes necessary, for the construction of air raid shelters and gas-decontamination chambers. The added expense of constructing and operating several separated buildings instead of one long one should not be prohibitive and may be regarded as insurance.

Where new housing is constructed near a "military objective" and space permits, such housing, also, should not be laid out in a straight line.

### Dividing the risks

IN A great many cases, land for dispersion of buildings simply is not available. In that event reliance must be had on internal walls. In lieu thereof, equivalent arrangement of stores of goods, cloakrooms, etc., in the interior of the building may be designed so as to partition off the space, and thereby the risks.

One impressive piece of advice the British have been giving their industrialists and others planning new buildings is by all means to provide for duplicate and independent channels of water, sewage, power, and light. The duplicate



mains and wires should be widely separated and, wherever practicable, should be placed well underground. In laying plans for an industrial or municipal system of water or other pipes, numerous hydrants and valves are necessary, the British advise, since thereby any damage is localized and more quickly repaired.

To an air raider, a large building is a choice target. Its defense is greatly facilitated in most cases, if the structure is camouflaged by day, and of course it must be blacked out by night. Camouflage is not merely trimming for ships and cannon.

Well-dressed factories in Europe wear war paint, and it may yet come to that here. In indiscriminate bombing of large cities, of course, camouflage offers no protection.

For British buildings, two main types of camouflage are used: "disruptive" patterns, and "imitative." The disruptive pattern breaks up the visual unity of the target; the imitative attempts by "protective coloring" to merge the structure with its surroundings.

Concealment, to do it right, means more than markings. It calls for the darkening of all normally light surfaces, both roofs and walls; the treatment of roof lights to prevent shine; darkening of concrete roads; and so forth. It means avoiding the use of bright colors or glossy paints, small patterns, roofs which are lighter-colored than the walls, or paints which are not fast colors. A windowless building is easiest camouflaged by day, and also easiest blacked out by night.

### Hiding skylights

SKYLIGHTS may be kept from reflecting light by applying a clear varnish and then spraying lightly with granite or some similar dust, but not with natural sand, which shines.

"By this treatment not more than 50 per cent of the normal light need be cut off," the handbook consolingly states. Moreover, the camouflage design may then be continued over the windows.

If you travel by air, you will readily appreciate that camouflage is of little value where rivers or other geographical landmarks make concealment futile. Decoys, too, may provide effective concealment, as in Finland, where, during the recent war with Russia, dummy farm houses on sleds were drawn onto landing fields while the latter were not in use. In isolated places decoy lights at night may prove useful. Landscaping and tree planting also afford valuable protection from air raids.

In his book, "They Wanted War," Otto D. Tolischus writes of the dummy plants, smokestacks and blast furnaces that helped confuse the contours in the Ruhr on moonlit nights. So successful was the industrial camouflage, he writes, that German fliers searched in vain for the vulnerable spots.

Blackouts, as everyone knows, are a nightly occurrence in Europe. Not only windows, but doors, skylights, and any other apertures must be completely screened. The blackout brings problems of lighting and ventilation to those working at night. Well in advance of the war,



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the British public was advised to make blackout plans.

For new buildings, the elimination of skylights was recommended. Where broken skylights were being replaced, consideration of blackout and concealment factors were urged. In all large buildings, vestibule entrances were advised as indispensable.

Allowance was made for lights at each entrance, and other external lighting for yard work and other necessary movement, but for such lighting, fixtures throwing the beam down were prescribed exclusively.

For intermittent obscuration of skylights the British have been using weatherproof external panels, or internal panels of plywood. Failing one of the foregoing, continuous obscuration is prescribed. Sometimes colored glass is used; for example, blue glass complementing yellow light.

Where industrial activities by their nature cannot be blacked out or concealed, a shield of blinding lights is sometimes advocated.

#### Protection for airports

AT AN airport, blackout provisions are, of course, absolutely vital. There has been some public discussion of underground hangars. Generally speaking, such facilities are too costly to contemplate. Much can be achieved by concealment and precaution.

The British are said to be having good success at airports with semi-underground protection in the nature of camouflaged trenches, shielded with

walls. Airport stocks of fuels and lubricants, particularly, have to be protected against air raids.

Underground power and communications lines are advised. On the maritime principle of bulkheads, large hangars should have fire walls both inside and outside to protect against incendiary bombs and missiles. For the rapid repair of runways, supplies of material and machinery have to be at hand.

Wherever air raid protection is sought, all new buildings should be built of fire resistant materials throughout. Underground emergency water tanks for fire-fighting should be planned. Architects should provide adequate walls to localize any fire.

Ordinary fire-fighting equipment needs to be supplemented, when danger threatens, by sand bins and shovels suitably located, a practice which occupants of old buildings, also, must adopt in time of danger.

In constructing large buildings, avoidance of closed courts is recommended, since a closed court only increases the effects of a blast. Unnecessary architectural protuberances such as balconies and cornices are to be omitted. Simplicity of line is the rule for passive air raid protection. Not only at airports, but elsewhere, outdoor oil and gasoline tanks, reserve water tanks, and the like are safest under ground, Europe's experience shows.

The influence of the present war on commercial and industrial architecture and city planning is bound to be far reaching.

To considerations of utility, conveni-

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ence, and appearance there will be taken into account increasingly considerations of protection. Our architects, trade associations, chambers of commerce, and business men doubtless will thumb with more than casual interest the pages of European experience as they seek facts on blast-resisting qualities of structure and material.

## King Cotton Enters the Building Trade

(Continued from page 43)

ished. Each mat is wetted thoroughly before application and kept wet until removed. The curing period requires not less than 72 hours; but after it is finished no subsequent treatment is required.

### A check on erosion

AFTER a highway is built, another type of cotton fabric is being used to advantage in solving one of the most costly problems of maintenance. Erosion of slopes and banks, caused by the highway's diverting water from its natural flow, inflicts a double damage: it injures farm lands adjacent to the highway, and it necessitates frequent road repairs. The only satisfactory method by which this erosion may be prevented is to plant the slopes and cuts in self-perpetuating vegetation, such as shrubs, trees, or a rugged type of grass. Heretofore, this was frequently difficult because of the very erosion the engineers wished to check. The soil movement gave the vegetation no opportunity to begin its growth. Today, after numerous tests, a coarse cotton fabric is used along cuts and fills to hold the soil in place while the vegetation is taking root. The process—once the idea was actually conceived—has proved to be relatively simple. The soil is prepared for seed suitable to the climate and soil conditions, and the seed is planted. Then the fabric is laid to the slope vertically, the strips being held in place by wire pegs or stakes. If desired, the fabric may be aided by a mulch of straw, hay, or leaf mold. Some of the more affluent highway departments leave the fabric on the slope until it deteriorates. Others have the fabric taken up as soon as the vegetation becomes established and then use it again on other slopes. In either case, this new method is proving to be one of the best money-savers of all the new uses yet found for cotton.

Fortunately for Mr. and Mrs. America in general and for the cotton farmer in particular, these new uses for cotton in the construction trade have started a happy economic cycle. The cotton, flowing from the farmer as his cash crop, enhances the efficacy of established manufactured materials, gives the home builder a cheaper and better house, the states and counties more durable roads, and, back to the farmer again, the cash necessary for starting a much needed home and road building program of his own.

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## Texans Ride the Tax Range

(Continued from page 24)

in the court houses, and they were interested.

Another straw man dissolved when Morris, with his active taxpayers' groups set up in half a dozen test counties, began contacting the county officials. They responded enthusiastically.

Most county commissioners were farmers, or small business men. Many of the county judges were lawyers, many of them young. Few had any experience in large financial transactions. Morris' gospel of a budget for every county spending body gave them opportunity to effect a saving in operating costs and tax levies, and, with the local voters keenly interested, it was good politics to embrace the new doctrine. As Morris said later:

As a matter of fact the average county judge and county commissioner wants to operate his county government econom-

ically, but the apathy of the voters—except those who wanted the county to spend more money for some project they were interested in, made him feel that he was flying in the face of the desires of his constituency, and public office holders are generally pretty timid about that sort of thing. The organization of the taxpayers' groups gave the county officials the encouragement they needed. Their cooperation in almost every case was enthusiastic, and made possible the splendid record of tax reductions which East Texas counties have effected in the past two years.

Now, a look at the record:

When the East Texas Chamber's work was inaugurated, less than half the 70 counties in its territory were operating on a budget. This year, for the first time in history, every one of the 70 counties is operating on a budget, properly adopted after public hearings. In most instances, large groups of taxpayers attended these



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## Better housing pays dividends



Newton C. Farr (left) and Myers Y. Cooper (right) president and chairman of committee of real estate taxation of Nat'l Ass'n of Real Estate Boards. Herbert D. Simpson of Northwestern U. in center

Mr. Cooper: "We have a remarkable record of achievement in social and economic well-being in the fact that home ownership has increased 62 per cent in the past 30 years. This represents the building of 15,000,000 new homes equipped for greater comfort. With this has come an increase in high school attendance of 700 per cent and in higher education of 300 per cent; sextupling of deposits in banks and building and loan associations, and like gains for other savings and lending institutions. All this despite the fact that in the past ten years something like a fourth of the wage earners has been out of jobs. We have not reached the limit of opportunity in this land of ours, by any means."



budget hearings, whereas, in past years, the budget hearing was a perfunctory legal gesture, with only a couple of courthouse loafers dozing in the shady side of the courtroom when the county's yearly financial program was adopted.

In levying the 1939 taxes, three counties in East Texas raised their tax rate. Twenty-four counties reduced their rates, the reductions ranging from two cents to 40 cents on \$100 of valuation. The remaining 43 counties kept tax rates at the 1938 level, despite increased demands for larger expenditures for "matching" funds for federal projects, for direct relief, "made" work projects, relief of unemployables and public hospital service.

Secret of Morris' success in enlisting public interest in county fiscal affairs, he believes, is his use of a simple form, which reduces the highly complicated fiscal statement produced by the average county auditor to a document which the average farmer or merchant can understand.

### Improved financing

THE correction of "haywire" financing operations committed in past years has been one of Morris' main objectives, and he has been able to suggest methods which have resulted in substantial savings, through refinancing operations, in some cases. Typical is one instance, where he revealed that in one county, a \$90,000 bond issue was sold in 1923 to build a county road. The bonds were to mature serially, but the first maturity was scheduled for 1939. With a five per cent interest rate, the taxpayers had paid out \$72,000 in interest before a penny was paid on the principal of the debt. Meanwhile, the road for which the money was spent had become obsolete.

Throughout East Texas, there is tremendous enthusiasm for the East Texas Chamber's tax control work, after its two-year demonstration of results and future possibilities. This sentiment is reflected in hundreds of letters in the East Texas Chamber's files, from members and friends of the organization in every walk of life. County officials are among the most enthusiastic boosters.

Present plans call for a continuance of the county tax control program, with constant vigilance by the local tax committees to follow through and see that county governments adhere to state laws which require that budgetary maximum expenditures, once adopted, must be adhered to.

With the county government control work well organized, Mr. Harrison has announced an extension of the tax survey and control work into the city and independent school district field, which promises a rich harvest of tax-saving results. He says:

So far as I know, the Tax Control program has not caused the resignation or loss of one single member of the East Texas Chamber of Commerce. We have engaged in no political campaigns, few persons have criticized us, and, contrary to the expectation of some persons when we undertook this project, we have gained a substantial number of new members, whose interest has been attracted by the outstanding results achieved by the tax program.

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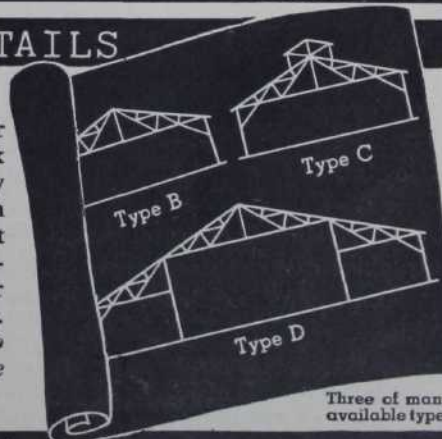
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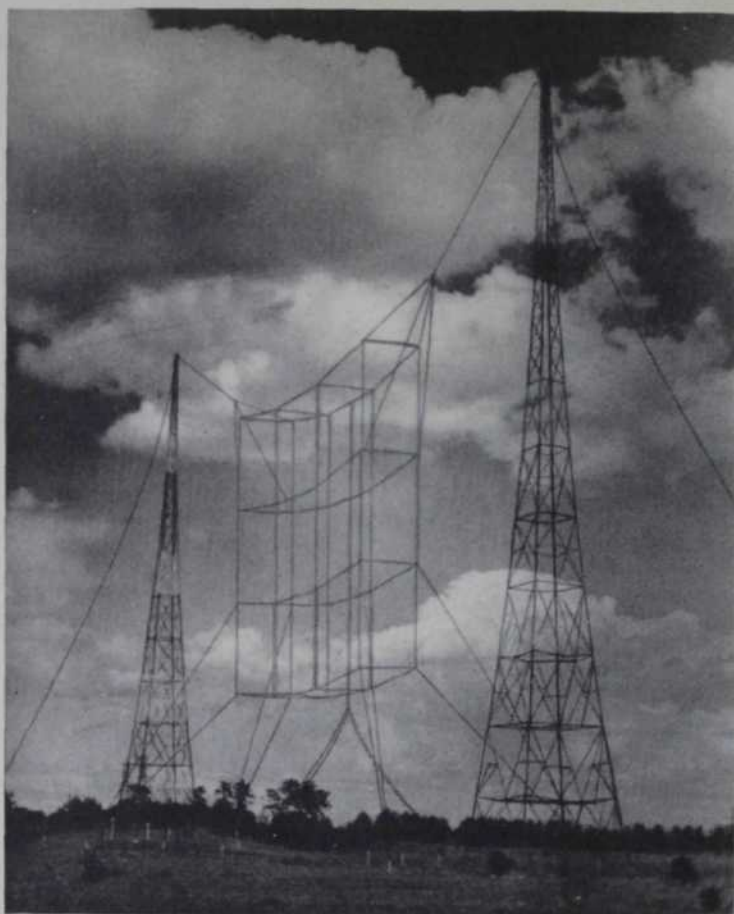
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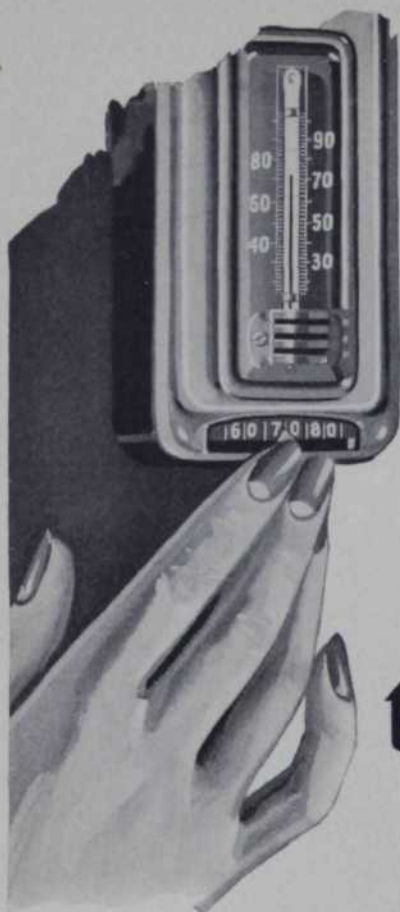
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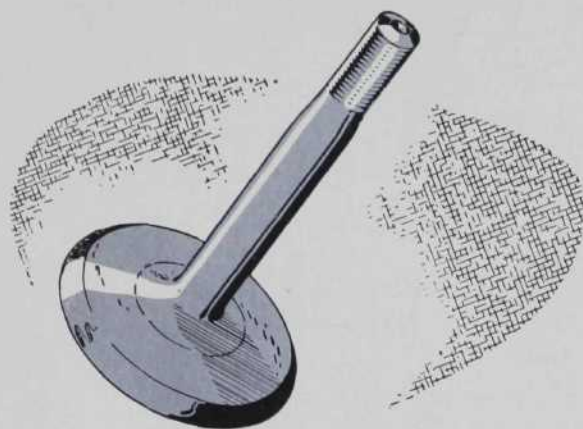
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Your desire for its quality and years of work have made Coca-Cola the drink everybody knows... and have made *the pause that refreshes* America's favorite moment.





## **PARADOX: HEAVY DUTY CALLED FOR LIGHTNESS**

*Big and heavy* are like ham and eggs, or salt and pepper. Most of us think they belong together.

Not so.

Bigness often demands lightness.

A case in point: The biggest air-conditioning compressor we know of uses Aluminum valves in one of the heaviest-duty spots in the whole machine.

The reasons are pretty involved with the interaction of various forces, the way the valve springs behave, and so on. But the point is very clear—a light valve works better than a heavy one in exactly the spot where every slavish upholder of tradition would call for weight.

We make these valves for our customer from a strong alloy of Alcoa Aluminum by an ingenious process called impact extrusion. And, with all their advantages, they actually cost him less than the heavy, forged valves he used to use.

It often turns out that way when you adopt the principle of lightness via the strong alloys of Alcoa Aluminum.

Such are the things Alcoa Aluminum is doing to traditional ideas of weight. Needless weight has no business in business. It is never expensive to use Aluminum wisely. Aluminum Company of America, 2125 Gulf Building, Pittsburgh, Pennsylvania.



# ALCOA · ALUMINUM





# Every Business Needs This ARCTIC\* DAYLIGHT

\*ARCTIC DAYLIGHT: GUTH Fluorescent Fixtures deliver a maximum of cool, brilliant illumination with a minimum of shadows and glare.

**Guth**



## FLU-O-FLECTORS and TRU-CO-LITES

Fluorescent Lighting at Peak Efficiency

For Offices, Factories, Stores, Etc.

Fluorescent Lighting in GUTH FLU-O-FLECTOR and TRU-CO-LITE Fixtures gives you *much more* illumination, *much better* illumination, of an actual daylight quality. These scientifically designed Fixtures are enhanced by the famous ALZAK Process to render peak efficiency in Fluorescent illumination.

Offices, factories, and stores everywhere are using GUTH Fluorescent Fixtures to help speed work and boost sales. Your business, too, needs this modern, efficient equipment!

Write for detailed lighting plan for your business. No obligation.



### "P.F.C.'s" Plastic Diffusers

For maximum satisfaction with any make of Fluorescent Lamps, use the new GUTH "P.F.C.'s." These plastic Diffusers snap on and off the lamp easily — reduce the glare of the bare lamp — give a soft, pleasing illumination that's extra easy on the eyes. Available in 5 colors, "P.F.C.'s" are decorative as well as scientifically practical.

**ALZAK  
ALUMINUM  
REFLECTORS**

**Guth**



### For Offices

GUTH Fluorescent Fixtures are smart in appearance—give an added touch of beauty to offices and stores.



### For Factories

The ALZAK Reflectors in GUTH Fixtures may be cleaned by washing with soap and water. In the GUTH FLU-O-FLECTOR, the Reflector is easily removed from the Fixture for cleaning on the floor or at the bench. That's safety, plus time saving, plus better cleaning!

THE EDWIN F. GUTH COMPANY . . . ST. LOUIS, MO.